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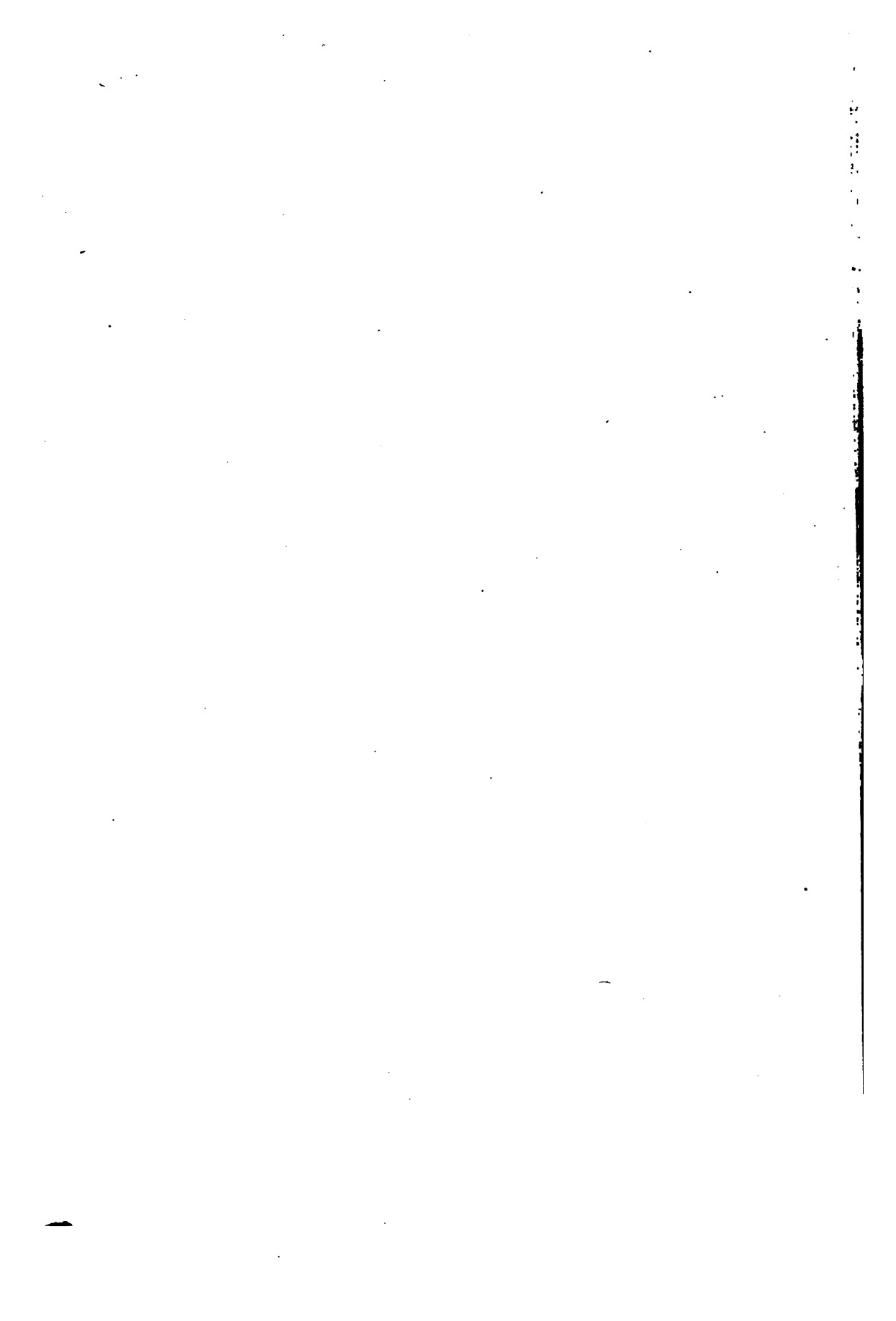
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TWENTY-SEVENTH ANNUAL REPORT
OF THE
COMMISSIONER OF RAILROADS
OF THE
STATE OF MICHIGAN
FOR THE YEAR 1899



BY AUTHORITY

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OFFICERS OF THE DEPARTMENT

1899

CHASE S. OSBORN, *Commissioner*

CHARLES H. CHAPMAN, *Deputy Commissioner*

JAMES BICE, *Mechanical Engineer*

OFFICIAL ADDRESS: LANSING, MICHIGAN

COMMISSIONERS OF RAILROADS

DEPARTMENT CREATED APRIL 10, 1873. TERM OF OFFICE TWO YEARS

	Appointed
STEPHEN S. COBB, - - - - -	April 25, 1873
WILLIAM B. WILLIAMS, - - - - -	May 1, 1877
WILLIAM P. INNIS, - - - - -	January 12, 1883
WILLIAM McPHERSON, JR., - - - - -	January 15, 1885
JOHN T. RICH, - - - - -	January 12, 1887
CHARLES R. WHITMAN, - - - - -	January 14, 1891
SIMEON R. BILLINGS, - - - - -	January 10, 1893
SYBRANT WESSELIUS, - - - - -	January 14, 1897
CHASE S. OSBORN, - - - - -	April 6, 1899

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REPORT.

STATE OF MICHIGAN,
OFFICE OF THE COMMISSIONER OF RAILROADS, }
Lansing, December 30, 1899.

THE HONORABLE HAZEN S. PINGREE, *Governor of Michigan.*

SIR In accordance with the law creating the office of commissioner of railroads and defining the duties of the commissioner, I have the honor to transmit to you herewith the twenty-seventh annual report of the work of this department.

In this connection I desire to acknowledge and thank you for the sympathy, encouragement and advice you have given to the work in hand.

Yours respectfully,

CHASE S. OSBORN,
Commissioner of Railroads.

THE RAILROADS OF MICHIGAN.

The number of railroads in Michigan making reports to this office and under its jurisdiction has grown to 88 with a mileage of 10,211, including sidings and spurs, which is about equal to the entire railroad mileage of the Republic of Mexico, one-sixteenth the total mileage of Europe, one-eighteenth the total mileage of the United States, and about one-fiftieth the total mileage of the world.

From this brief comparison may be obtained something of an idea of the importance of Michigan in the railroad world, and correlatively the importance of the railroads of Michigan to the development and welfare of the state.

It is a pleasure to report that in my opinion the railroads of Michigan are as progressive as those of any other state or country, as well equipped in every respect to render efficient service and as accommodating and desirous of meeting the public demands in every direction.

There was a time when a few railroads maintained a policy of absolutism bordering upon commercial autocracy. The demeanor of these roads, and I desire to emphasize that in my belief they were always few in number, had entirely to do with producing the strained relations and misunderstandings which have existed from time to time between railroads

and the masses of the people and which today exist in fortunately much lesser degree.

I am convinced that it is the policy of all roads today to be as accommodating as possible and to treat with all concerned in a spirit of fairness, giving immediate consideration to complaints of all natures and endeavoring to convince the people that they are anxious for their patronage and do not desire to make use of their great power and influence for either oppression or self-protection except when they are driven to it. Most of the managers of the railroads today and railroad officials in all high places are self-made men who have risen to their prominent positions by dint of hard work and the development of peculiar fitness for their positions. They have started at the bottom and have a full knowledge of the conditions in all classes and are consequently not dead to all human considerations and sympathies. It is demanded of a railway employe today that he shall be capable, polite and obliging, and a complaint of the ill-treatment of any patron of the railroad by any employe made to the management of the road results in severe reprimand, and, if not at once, dismissal upon repetition.

I am led to make these observations because of the satisfying opinion that the railroads and the people are fast beginning to understand each other better, and that only as a full understanding is reached and a disposition upon the part of both to be fair, can the best results be obtained. The commercial pendulum has, in railroad business as in all other channels, swung very recently from the side of a depressingly small volume of business to the other extreme of what is really an embarrassingly large volume.

The measure today of the business of almost every railroad in this state may be truthfully said to be its capacity for doing that business. All of the roads have as much as they can conveniently take care of and many have more.

There has been a great scarcity of cars and the car building firms have not been able to supply orders within anything like satisfactory time. There has been a great scarcity of all kinds of railroad materials and a corresponding enhancement in prices. The cost of operating and keeping up the physical conditions of the railroads in Michigan today is in many respects almost double what it was a year ago. There has not been a corresponding increase in freight and passenger rates, and, in fact, until the latter part of this year there was no increase whatever.

Shippers generally have shared in the prosperity of the times, have been able to secure higher prices for their wares and have been required to pay little or no more for their transportation to market. The price of steel rails alone has practically doubled.

On account of the great scarcity of cars, railroads have been driven to many expedients for the purpose of obtaining greater service from their cars. Probably the greatest use obtained by any railroad of Michigan of its freight cars is two hours per day per car, leaving the car idle 22 hours; and in some instances roads report that they get very little more than one hour of service per day, cars being held for purpose of loading or for purposes of storage. In order to facilitate the movement of cars, railroad companies have entered upon an agreement to charge for storage and hope to obtain some relief in this direction. And while this may be justifiable on the part of the railroads, it will inflict more or less hardship upon shippers as compared with previous conditions.

No complaint has been made to this department of any discrimination in the matter of freights between points intersected by competing lines and points not so intersected.

The wages of employes have been materially increased in many instances. Section men and track laborers have been paid this year as high as \$1.75 per day and at least one contractor reports that although he paid common laborers \$2 a day and has hired more than a thousand men during the year, he has been unable to have more than sixty at work at any one time—which is an indication of the scarcity of labor in railroad channels. This paucity of labor has been a source of a great deal of embarrassment to the railroads. They have seemingly been unable to do as much track work as they have desired, and it has been almost impossible for many roads to get their tracks into as good condition to go into the winter as usual.

Despite the hard times and the too frequent operation at a loss, the railroads of Michigan kept up their physical condition to a degree highly creditable.

The orders of this department have been promptly obeyed. Recommendations have been met with favorable consideration and adoption, and the reports regularly demanded by law or asked for by this department have been made without hesitation or friction.

There is the same general tendency that has characterized the railroads of Michigan in the past to progress and to adopt the most modern, safest and most economic appliances. At least one railroad in the State is experimenting with the oiling of roadbed through a sandy region for the prevention of the dust nuisance. Other railroads are experimenting with gravel floor bridges; another is making use of a tie spotter, an ingenious and economical invention of its mechanical force; electric headlights with reflective power of 15 miles are coming into use; standard code of signals has been quite generally adopted; the smokeless firing of engines, tending to correct the smoke nuisance and the economizing of fuel, is being tried by many roads; the preservation of wood ties by chemical treatment is not uncommon; 33 foot rails, which reduce number of joints by 10 per cent, are being used; the shoveling of gravel and earth by power is general; the use of heavier engines, larger cars and heavier rails has been found a necessity of modern operation, and many other practical schemes of economy too numerous to detail here have been introduced, all of which tend to better service and cheapen it and in the end ought to affect beneficially the cost and safety of railroad service to the people.

It is not uncommon in Michigan for railroad managements to encourage the cultivation of the right of way on the part of section men and neighboring farmers, which brings into use a large area of land heretofore idle, keeps down noxious weeds, lessens the danger of fire, gives a general pleasing effect to the eye and increases the feeling of goodwill between the railroads and those living near them. It would seem to be a commendable practice.

Particular attention is being given to the thorough blocking of all switches and frogs, to the cleanliness of passenger stations, large and small, and, in many instances, to the beautifying of station grounds. A number of new and pretentious railroad stations have been erected and several more are contemplated for the coming year.

Much attention is given to sanitary conditions and architectural effect,

which cannot fail of being of great educational and other benefit to the people. The railroads concentrated at the junction of Durand have plans drawn for a union station there to cost \$40,000, and give assurance that work upon it will be started as early as possible in the coming year. Much needed station improvements at other places are also assured.

There is a very general and commendable tendency toward the removal from the lines of all railroads of wooden structures of all kinds. Hundreds of small bridges and culverts were piped and filled this year. In a great many instances wooden bridges have been replaced by steel structures, and first attention is now being given to strength and permanency in all channels of railroad construction.

SIZE OF ANNUAL REPORT LIMITED BY LAW.

Act No. 44 of the Public Acts for the year 1899, provides that the annual report of the Commissioner of Railroads shall not exceed three hundred pages, including context and index.

This explains the reason for omitting from the present report the publication, in full, of the annual reports of the various railroad companies in Michigan. However, the substance of the annual reports of all the railroad companies may be found in tabulated form in this report.

RAILROAD MAP OF MICHIGAN.

In connection with this report, a railroad map of Michigan has been published for free distribution to those who desire it and will write to this department for it. The map was carefully prepared and contained up to the time of its publication all the existing railroads, new postoffices and changes made in counties and townships by the last legislature.

Particular pains were taken to bring it up to date in every respect and it is believed to be practically perfect.

INSPECTION OF RAILROADS.

Every railroad in the state of Michigan, with all of its branches, double tracks, spurs and switches, has been thoroughly and carefully inspected this year, and attention is respectfully directed to detailed account of these inspections given in the report of the mechanical engineer to the commissioner of railroads.

HEATING OF PASSENGER CARS.

This year's inspection of the railroads developed the fact that despite the good work and care of former commissioners, the use of dangerous stoves was in vogue upon several roads. These have been ordered out in every instance. Upon most of the roads the coaches are safely and successfully heated by steam. Some still use hot water heaters that are measureably safe, but which are by no means as satisfactory as the method of generating the heat outside of the coach.

PAINTING WING FENCES.

A great many railroads have adopted the practice of painting wing fences at highway crossings white, in order to furnish the best back-

ground possible for magnifying objects on the crossing. All locomotive engineers agree in stating that they are greatly assisted by this practice in determining whether the crossing is clear or not. A law requiring all roads to thus paint wing fences would accomplish good results.

FIRES ON RIGHT OF WAY.

It is pleasing to note the efforts and advancement made by many of the railroad companies to prevent fire from spreading over the right of way and to adjoining land where valuable crops have heretofore been destroyed, during dry seasons. In many instances the railroad companies permit and encourage railroad employes, farmers and others to till the right of way, each side of the track, and plant root crops. Other methods adopted quite extensively, for the prevention of the spreading of fires, where the right of way is not planted, is to plough dead furrows, dig ditches, etc., and in keeping the right of way clear of weeds, brush and all inflammable material and substance.

OVERHEAD WIRES.

The legislature of 1893 passed a bill which became Act No. 171, entitled "An act to regulate the construction of the tracks of railroads and street railroads across each other, and the stringing of wires, electric or other, over railroad tracks, and relative to the maintenance of such tracks heretofore so constructed and wires heretofore so strung."

The provisions of this act make it the duty of the commissioner of railroads to examine all places in this state where the tracks of railroads are crossed by wires strung over such tracks, and wherever, in his judgment, changes should be made to guard against accident, to order such changes made.

Despite the efforts made by former commissioners to discharge the duty imposed by this enactment, in the early part of the year many narrow escapes from accident to trainmen from this source were reported as well as frequent complaints made of wires being insecurely fastened over railroad tracks. There also existed a common disregard for the provisions of the statute which requires that official permit must be procured from the commissioner of railroads before a new wire crossing over railroad tracks can be legally made. These facts together with the building of new railroads under poorly constructed wires and the immense amount of new wire building over tracks, made it imperative that some radical measures be adopted by the department to afford that protection to trainmen contemplated by the statute.

To accomplish this object it was necessary to organize a new division of the department for the exclusive consideration of wire matters; to employ competent, reliable men to make a thorough and systematic inspection of all wire crossings in the state and report the same in detail; to adopt standard specifications to which all construction at railroad crossings must conform, and from reports made to compile a complete record of this class of crossings.

When it is considered that there are 10,211 miles of railroad, including sidings and spurs, in this state, crossed not only by all the large telephone, telegraph and electric light corporations doing business in Michigan, but also by hundreds of local telephone, telegraph, electric light, fire alarm and private wire companies, it must be conceded that this

undertaking necessarily involved a heavy expenditure of labor, time and money.

Very gratifying results have been obtained from this work. Nearly 7,000 wire crossings have been inspected and detailed reports submitted on the same, and an elaborate system of filing and indexing has been adopted so that in a very short time a complete record will be had of the work already done.

The railroad companies have greatly aided the department in its work of locating the ownership of wires, and have expressed appreciation of the efforts being made to throw every possible safeguard around the trainmen exposed to the danger of accident from insecurely put up and poorly constructed wire crossings.

Of the 7,000 crossings inspected, at least 5,000 had defective construction, and more than 500 were exceedingly dangerous.

Personal communication has been had with all corporations and persons responsible for dangerous construction where possible to ascertain names, and in instances where it was impossible to obtain this information the circumstances have been stated to the officials of the railroad company whose tracks were crossed and such companies have at once ordered the obstructions removed from their tracks.

Wire companies throughout the state generally have cheerfully complied with the requests, and promptly obeyed the orders of this department, there being but two or three companies that have manifested any unwillingness to reconstruct their crossings. All matters have been amicably settled, and no prosecutions have been necessary.

Over 500 permits with specifications for the construction of new crossings have been issued by the department this year.

The inclement weather of the winter months has made a continuation of the work impracticable, the results possible to obtain not warranting the expenses necessarily incurred, consequently the work has been temporarily suspended.

SEPARATION OF GRADES.

The public appetite for separation of grades at all possible places has been whetted to the point of positive demand by the occurrence this year of several deplorable accidents which would have been avoided if the crossings had not been made at grade.

The railroad crossing board early in the year took the position that all crossings of steam railroads should be made either overhead or underground wherever practicable, and the present commissioner, very soon after assuming office, April 11 of this year, took the position that all crossings of street railroads and steam railroads should be made at a separation of grade wherever at all possible. In pursuance of this position, it has been frequently necessary to order a separation of grades at crossings of street railroads and steam railroads where the crossing was made at a point where the topography was absolutely level. Primarily the position of the commissioner upon the question of grade separation seemed to be extreme and impose hardships. This was particularly true where roads had been planned and their promotion accomplished upon a basis of cheap crossings at grade; but there seemed to be no other way to impress upon the promoters and builders of railroads the absolute necessity of figuring upon the separation of grades than to inaugurate a

consistent policy of absolute separation. With this in vogue, it will be nearly always possible to find places for crossing that impose no great engineering obstacles or unusual cost. In the long run, from an economic standpoint alone, it is easy to demonstrate the wisdom of grade separation. There is absolutely no way to adequately protect life and property at railroad crossings except by a separation of grades. Mechanical safety devices, no matter how perfect they may be, do not protect. Statistics show that about two-thirds as many accidents occur at so-called "protected" crossings as at those not protected at all.

It will continue to be the policy of the present commissioner to require a separation of grades where he has jurisdiction, based, in part at least, on the following reasons:

1st. Owing to the large number of electric lines which are projected in the state, if grade crossings were allowed at all proposed crossings, the high rate of speed which is so desirable in first class passenger traffic, would be impossible, owing to the fact that all trains are required to approach railroad crossings at a limited rate of speed and under perfect control, even when such crossings are protected by mechanical appliances.

2d. The expense of installation, operation and maintenance of a standard crossing, with first-class interlocking and derailing switch and signal system, is so great that it is a matter of economy for the electric lines to separate the grades, and thus avoid the necessity for the payment of the fixed charge incident to a grade crossing.

3d. These companies being permitted to operate their lines under the present statutes of the state without being subject to any supervisory control, with reference to the construction and operation of their cars, their system of train despatching or the qualifications of their employes, it is considered that the safety of the public is especially endangered at grade crossings of their lines with steam roads.

4th. Grade crossings are under all circumstances a source of great danger to the traveling public, and inasmuch as electric lines can ascend a much steeper grade than can be ascended by a steam road and thus reduce the expense of the grade separation, it is not considered any serious hardship to them, to require them to separate the grades, and thus avoid all possibility of collision at grade crossings with their consequent loss of life and destruction of property.

SUPERVISION OF ELECTRIC ROADS.

In the commercial evolution of Michigan and its concurrent development, the state is being practically gridironed by electric roads. All of these roads carry passengers and most of them transport freight. Once within their municipal limits, it is easily possible for these roads to be controlled and regulated by cities. They are less apt to be subjects of regulation in villages, and are practically independent of any control whatsoever in the townships.

The cars of these roads attain a high rate of speed. It cannot be said that they are operated with the same care that attends the operation of steam cars. The steam roads are subject to police regulation on the part of the state and it would seem that there are even more reasons why the electric roads should be. A bill wisely drawn, having for its purpose the placing of these roads within the jurisdiction of the com-

missioner of railroads, was introduced at the session of the last legislature but did not become a law.

I would earnestly recommend that the electric roads of the state, at least outside of cities, should be subjected to the police regulations of the state. They are rapidly assuming all the functions of steam railroads, and so far as the state is concerned, it would be wise, in my opinion, to place them in the same class.

IMPROVEMENT IN SAFETY DEVICES.

It is very gratifying to note the continued improvement in all mechanical devices designed to prevent the possibility of accidents at crossings. At a number of places in Michigan several steam roads cross each other at or very near the same point, and some of the crossings are made more complicated by having one or two highways, and one or more electric roads added to these crossings.

The inventive genius of the American mechanic has made it possible to furnish a large degree of protection at such grade crossings. One man in a tower handles the levers that control a complicated, electrically locked interlocker, and safety gates, which give but one road the right of way at a time.

In cities and villages where traffic is much congested on streets crossing over railroad tracks, guard gates are numerous in operation while at other street crossings, where the travel is not heavy, a flagman is usually considered sufficient and at other crossings where the travel is very light, and there are no serious complications, an automatic or positive circuit electric alarm bell is deemed adequate protection against the possibility of accidents.

These devices have materially reduced the number of accidents and saved many lives and much valuable property from destruction.

THE AUTOMATIC COUPLER LAW.

Extract from special report and order of the Interstate Commerce Commission, in the matter of the application of certain railroad companies, for a further extension of time within which to comply with the provisions of the safety appliance act.

The act of Congress commonly known as the safety appliance act, provided that no train carrying interstate traffic should be run from and after January 1, 1898, unless so equipped with power or train brakes that its speed could be controlled from the engine, and that no car used in interstate traffic should be hauled after that date unless equipped with a coupler which would couple automatically by impact and which could be uncoupled without going between the cars. Section 7 of that act provided that the Interstate Commerce Commission might, from time to time, "upon full hearing and for good cause, extend the period within which any common carrier shall comply with the provisions of this act."

Sometime before January 1, 1898, when the act by its terms became effective, a large number of railroad companies, embracing practically all the railroads of any importance operating in the United States, petitioned the Commission for an extension of time. These petitions

were heard on December 1, 1897, and upon consideration of the facts developed upon that hearing, an extension of two years was granted. It was then expected that within the time as extended substantially all of the carriers would be able to so complete their equipment as to comply with the requirements of the act. In November of the present year, however, numerous petitions were filed asking for a further extension of this time, and these petitions were set down for hearing at Washington, on December 6, general notice being given to the public. At that time both the carriers who requested and those persons who opposed such extension were fully heard.

The carriers base their claim to further relief mainly upon two grounds: First, that they have acted in good faith, having made satisfactory progress in the equipment of their cars and all the progress that under the circumstances could have been reasonably expected; Second, that to refuse to extend the time and to put this law into effect on January 1, would result in withdrawing from interstate traffic a large number of freight cars, to the great hardship both of the railways which would thereby be compelled to refuse the traffic and of the shipping public, which would thereby be denied the necessary facilities for the moving of its traffic. It was also urged that the necessary material could not be obtained and that the roads could not get possession of their cars for the purpose of equipping them in less than one year.

Petitioners asked for one year. Representatives of the railway employees who appeared at the hearing practically united in conceding that some further extension of time ought to be granted, but expressed various opinions as to the length of the extension. Some thought the whole year should be given, some that from four to six months, and others that two months would be sufficient.

After a careful consideration of the facts and conditions presented, it was ordered: First, that the period within which the petitioning carriers shall be compelled to comply with the provisions of sections one and two of the act of March 2, 1893, be and the same is hereby extended for seven months from January 1, 1900; that is to say, until August 1, 1900. Second, that the said extension of seven months from January 1, 1900 be, and the same is hereby granted to all other common carriers engaged in interstate commerce by railroad within the United States.

In this connection it may be stated that a very large percentage of the cars used in Michigan are already equipped as required by law, and satisfactory progress is reported in this class of equipment.

LICENSING LOCOMOTIVE ENGINEERS.

It seems desirable in this report to call attention to the question of licensing locomotive engineers in something the same manner that marine engineers are licensed. If it were not for the exactions of railroad managements and for the dignified standing of the Brotherhood of Locomotive Engineers, both demanding a high degree of perfection and ability on the part of locomotive engineers, there would be no question as to the absolute necessity of licensing these skilled mechanics. As it is, incompetent men are sometimes permitted to operate locomotives on small railroads and particularly is this true of logging roads. An examination of locomotive engineers by the State, to be followed by the grant-

ing of a license to those found fitted to occupy the responsible positions they are called to fill, would certainly tend to further elevate these workmen and procure a uniformity in efficiency.

PROHIBIT FLYING SWITCHES.

In many states there are laws prohibiting flying switches. In Michigan there is none. While the practice is generally frowned upon by railroad managements, it is nevertheless quite frequently resorted to on all railroads. If this practice were punishable by fine, it could be almost entirely prevented.

DANGER IN RAILROAD YARDS.

A great many accidents occur each year to persons walking in railroad yards who have no business there. In the larger cities these yards are a maze of tracks and it is sufficiently dangerous for trained employes to go among them. As it now is they are commonly resorted to by the public and used as highways. A law making it punishable for persons to go into railroad yards who have no business there, would certainly in great measure do away with a prevalent source of danger.

TAXATION OF RAILROADS.

The plan of taxation of railroads is still upon their gross income. In computing the taxes the commissioner has defined gross income to be receipts of all kinds, including the income from the operation of car ferries, from rentals of buildings and the operation of warehouses, elevators, stone quarries, mines or any other source.

Credit in mileage is given for all lines and parts of lines whose operation results in independent earnings and contributes to the sum of earnings upon which the taxes are computed. The commissioner gave consideration in the computation this year to the proposition as to whether the Grand Trunk leased lines in Michigan should be taxed upon the sums received from the parent line in Canada for the purpose of making up reported shortages. The matter was thoroughly investigated by this department and by the attorney general, and upon the advice of the attorney general the proposition of the commissioner was relinquished as being untenable, because of the contention that these sums were loans made to the Michigan lines and could be in no sense considered taxable income.

In the computation of the taxes of the Duluth, South Shore & Atlantic Railroad, it was discovered that the Mineral Range Railroad (almost entirely owned by the Duluth, South Shore & Atlantic) possessed undivided profits amounting to many thousands of dollars, which the commissioner regarded as income of the Duluth, South Shore & Atlantic Railroad whenever it desired to partake of it. The position of the commissioner in this instance was also unsupported by the attorney general, to whom it was referred, and who decided that the assessment of these profits would be double taxation, for the reason that the Mineral Range road had already been assessed upon its reported earnings.

It would seem that if the plan of taxing upon gross income is perpetuated, it would be wise on the part of the legislature to further particularize and declare just what is defined and incorporated by the term "gross income."

SPECIALLY CHARTERED RAILROADS.

The last legislature created a commission composed of the commissioner of railroads, the secretary of state and the state treasurer, to negotiate with the specially chartered railroads of Michigan for the purpose of ascertaining, if possible, upon what terms these charters would be surrendered. It may be stated in this connection that the Michigan Central Railroad, which has heretofore paid taxes under the general State law, using gross income of roads, decided this year to pay its taxes under its special charter, and which were \$44,141.36 less than they would have been under the general law. The Lake Shore & Michigan Southern Railway, whose taxes were assessed at \$34,633.41 under the general law, paid under its special charter \$46,743.60, or \$12,110.19 more than they were assessed under the general law.

The taxes of the Detroit, Grand Haven & Milwaukee Railroad under their special charter would have been \$25,171.40. Under the general law they were assessed \$29,036.17, and paid the difference of \$3,864.77 under protest.

WABASH RAILROAD PASSENGER FARE CASES.

Upon making an examination of the annual reports of the railroad companies for the year 1898, it was found that the Wabash Railroad Company reported as its operated mileage in this state 80.5 miles, upon which the gross earnings of its passenger department were \$164,072.26, or \$2,038.16 per mile, thus bringing this company under the provisions of Act No. 90, Laws of 1891, being Section 6234, Compiled Laws of 1897, which is as follows:

"That such compensation for transporting any passenger and his or her ordinary baggage, not exceeding in weight one hundred and fifty pounds, shall not exceed the following prices, viz: For a distance not exceeding five miles, three cents per mile; for all other distances, for all companies the gross earnings of whose passenger trains, as reported to the commissioner of railroads for the year one thousand eight hundred and eighty-eight, equaled or exceeded the sum of three thousand dollars for each mile of road operated by said company, two cents per mile, and for all companies, the earnings of whose passenger trains reported as aforesaid, were over two thousand and less than three thousand dollars per mile of road operated by said company, two and a half cents per mile, and for all companies whose earnings reported as aforesaid were less than two thousand dollars per mile of road operated by said company, three cents per mile; Provided, that in future, whenever the earnings of any company doing business in this state, as reported to the commissioner of railroads at the close of any year, shall increase so as to equal or exceed the sum of two thousand or three thousand dollars per mile of road operated by said company, then in such case said companies shall thereafter upon the notification of the commissioner of

railroads, be required to only receive as compensation for the transportation of any passenger, and his or her ordinary baggage not exceeding in weight one hundred and fifty pounds, a rate of two cents and a half, or two cents per mile as hereinbefore provided."

The attention of the railroad company was called to this law, and they were notified that under its provisions they would be required to carry passengers in this state for $2\frac{1}{2}$ cents per mile.

Upon receipt of this notice, the railroad company asked for time to carefully examine the figures given in their report, for the purpose of ascertaining whether or not any mistake had been made in the same.

After waiting a reasonable length of time, and no showing having been made by the company, and no steps being taken to comply with the requirements of the law, a demand was made by a representative of the department for a ticket on this line at the legal rate, and upon refusal of their agent in the city of Detroit to sell such ticket, after being tendered the regular price for the same at $2\frac{1}{2}$ cents per mile, a petition was filed in the Circuit Court of the county of Wayne, for a writ of mandamus, requiring the said Wabash Railroad Company to comply with the law and carry passengers in this state at the rate fixed by such law.

This case was decided in the Wayne Circuit Court, in favor of the railroad company and against the commissioner of railroads, on December 12th, two judges being of the opinion that the act under which this action was begun, which provides that the rates of passenger fare shall be fixed by the gross income of the passenger trains, was intended to cover only the income received from passenger fares. The third judge dissented from this opinion and believed that all earnings from passenger trains should be included.

The case will be appealed to the Supreme Court.

"GROSS INCOME WITHIN THE MEANING OF THE TAX LAW."

During the year 1898, in making the tax computation the position was taken by the department that "actually operated mileage," within the meaning of the tax law, constituted mileage which was either owned or exclusively operated by the company given credit for the same in fixing their rate of tax. It was also claimed that moneys received from switching charges were a part of the gross income and that moneys received from interest on bonds and for rent of tracks, yards and terminals, were the meaning of the tax law also a portion of such gross income, and should be taken into consideration in the tax computations.

The Detroit, Grand Rapids & Western Railroad Company applied to the supreme court for a mandamus to compel the commissioner of railroads to change the tax computation against their company and omit the items received from switching charges, rent of tracks, yards and terminals and interest on deposits, and also to give them credit in their mileage for such mileage as was operated jointly with some other company.

In the decision of the court rendered during the year 1898, the application of the railroad company was denied and the position taken by the commissioner of railroads was upheld. The Detroit, Grand Rapids & Western railroad company, however, refused to pay the tax as assessed against them and applied to the supreme court for a rehearing, filing with

said application a somewhat exhaustive brief, claiming a misapprehension upon the part of the court, both of the meaning of the law, as well as of the facts in the case. Briefs in opposition to this application were filed by the attorney general, but the petition for a re-hearing referred to was granted by the supreme court and on December 18, a decision was rendered by the court re-affirming their original opinion and holding that income from switching charges, rents of tracks, yards and terminals and interest on deposits, is a part of the taxable income of a railroad company, within the meaning of our tax law, and also that mileage which is not owned by a railroad company must be exclusively operated by it, in order to be used in fixing the rate of its taxes.

VOLUME OF BUSINESS.

The year 1899 has been a very prosperous one for the railroad business in this state, and although there has been no remarkable activity displayed in the construction of new lines, those roads which are in operation have done a very successful business and show a gratifying increase in the amount of their total gross income. The monthly statements received from the companies show an increase over the year 1898 of about twelve per cent, which will make the total income of all companies operating in the state for the year 1899, about \$35,892,864.22.

The largest amount of income ever reported by the railroads in this state for any one year was in the year 1892, when the total amount was \$38,683,203.94. In the following year 1893, the total earnings were \$36,432,718.97, and in 1894 the amount was decreased to \$29,522,975.71, and for the next three years there was very little change in the earnings as reported. At the beginning of the year 1898 began a steady increase in the amount of business done as indicated by the monthly statements received from the companies, which increase has continued ever since. The income reported for the year 1898 was \$32,047,469.84 and for 1899, as stated, \$35,892,864.22, from which it will be noticed that if this ratio of increase can be maintained, the year 1900 promises to be the most prosperous in the history of the railroad business in the state of Michigan.

In considering the income of railroad companies, it might also be well to remember that there are now a number of electric railways operating in Michigan, which are doing a large and successful business, carrying passengers and some light freight, the income from which is not included in the above statements for the reason that this class of corporations, being organized under what is known as the "Train Railway Act" are not required to make report of their earnings to this department or to any other department of the state, and it is therefore impossible to estimate their earnings with any degree of accuracy. If it were possible to ascertain the income of this class of companies, the amount, if added to the above statement, would, undoubtedly, materially change the showing made and their income should properly be added to the railroad earnings, as they are doing a regular railroad business, which has been developed entirely within a very few years.

ANNUAL REPORT OF THE
EFFECT OF CAR FERRY SERVICE.

The existence and successful operation of car ferries is proving to be a very important factor in the railroads business of the state, and will undoubtedly play a prominent part in determining the future of Michigan's carrying trade. A few years ago it was argued and apparently with some force, that Michigan could never become a great railroad state, being practically surrounded by water, and therefore deprived of the benefit of any of the great through commerce which would enable the railroad companies to reduce the rates on local traffic on their lines, but since the introduction of the car ferries, which have been in successful operation for a number of years, this objection has almost entirely disappeared.

In connection with its car ferry system the Ann Arbor Railroad Company will undertake, as soon as the weather conditions will permit, to ascertain whether a system of wireless telegraphy can be successfully established and maintained across Lake Michigan, from Frankfort to Kewaunee, a distance of 62 miles.

If reliable communication can be maintained between the two shores and at the same time between the ferries sailing on the lake, the company will undertake to despatch orders to the boats and at the same time to correspond concerning their general business across the lake by this means of communication. If this can be successfully done, and there seems to be little doubt but what it will be within a comparatively short period of time, and a satisfactory means of communication established across the lake, the last barrier to the successful operation of Michigan railroads in connection with the lines on the west side of the lake, will be removed and the railroads of this state will occupy their proper place among the great trunk lines of the country.

NEW COMPANIES ORGANIZED.

During the year there have been eleven companies incorporated under the general railroad laws of the State for the construction of new lines and extensions of existing roads, the proposed mileage of which aggregates five hundred and thirty-one (531) miles, a large proportion of which has been completed or is in course of construction. In addition to these the Pere Marquette Railroad Company has been incorporated for the purpose of purchasing the lines now owned and operated by the Flint & Pere Marquette Railroad Company, the Detroit, Grand Rapids & Western Railroad Company and the Chicago & West Michigan Railway Company, which combination, when finally effected, will constitute the greatest railroad system, in point of mileage at least, within this state. Its proposed mileage will be about 1,650 miles.

There have also been organized a large number of electric railway companies, and a number of these companies have their lines completed or in course of construction.

The jurisdiction of this department over this class of roads is limited to points where crossings are made with the lines of steam roads.

DIVISION OF EXPENSE FOR CONSTRUCTION OF INTERLOCKING APPLIANCES

During the latter part of the year 1898, the attention of the department was called by the Wabash Railroad Company to the necessity for interlocking appliances at the crossings of its line with the Ann Arbor Railroad at Milan, and the Cincinnati Northern Railroad at Britton.

After some correspondence with the companies in interest an inspection of the crossings was made by representatives of the department, a hearing was held at the office of the Commissioner of Railroads on March 22, 1899, at which time representatives of all the interested parties were in attendance and it was agreed that the necessity for interlockers at the crossings existed, which necessity was created largely by the increased fast traffic on the Wabash railroad, and for this reason it was decided that the Wabash company be required to pay the largest proportion of the necessary expense.

On March 31, orders were issued for the construction of a first-class interlocking and derailing switch and signal system at the crossing of the Wabash railroad and the Ann Arbor railroad at Milan, two-thirds of the expenses of construction and maintenance of the plant to be paid by the Wabash Railroad company and one-third by the Ann Arbor Railroad Company, and for the construction of a similar system at the crossing of the Wabash railroad and the Cincinnati Northern Railroad at Britton, three-fourths of the expense to be borne by the Wabash Railroad Company and one-fourth by the Cincinnati Northern Railroad Company. After the issuance of these orders the Wabash Railroad Company objected to the division of expense provided therein, by my predecessor, and on May 4, filed a formal petition asking the present Commissioner of Railroads to set aside the orders and award a re-hearing of the case, for the reason that it was unlawful to make any other than an equal division of the cost of construction and maintenance of such interlocking plants, which petition was formally denied by the commissioner for the reason that the conditions surrounding the crossings had not changed materially since the issuance of the orders and there was therefore no good reason for changing such orders. Based upon these contentions a friendly test case was arranged for the purpose of having the law finally construed by the proper authorities. The Wabash Railroad Company applied to the Supreme Court for a writ of mandamus requiring the Commissioner of Railroads to set aside his orders, and issue orders making an equal division of the expense between the companies in interest, and the following decision favorable to the railroad company was handed down by the court.

SUPREME COURT.

WABASH RAILROAD,

vs.

CHASE S. OSBORN,
Railroad Commissioner.

The line of the relator's road is intersected at Britton, Lenawee county, by the Cincinnati Northern Railway. On the 22nd day of March, the

respondent, acting under authority of Sec. 3310 Howell made an order that the two roads construct and maintain an interlocking switch and signal service, and that the expense should be borne, three-fourths by the relator and one-fourth by the Cincinnati Northern. This is an application for mandamus to require respondent to vacate this order and enter an order requiring the two companies to bear the expense in equal parts.

Section 3301 of Howell is a portion of the act to provide for the appointment of a Commissioner of Railroads and define his powers and duties and fix his compensation. This section authorizes the Commissioner to require railroad companies to station flagmen at crossings or maintain gates and further provides that when this is done the expense therefor shall be borne jointly in equal portions by the two companies.

By a subsequent amendment Sec. 3310 Howell was added to the act providing for a Commissioner of Railroads, etc., and as it now stands reads as follows: "Authority is hereby given to said Commissioner, and it shall be his duty, if he shall deem it practicable, to prescribe the use of the interlocking switch and signal system, or some other system that will secure equal safety of the operation of trains of cars at all crossings and junctions of railroads in this State."

It will be observed that unless the two sections (3301 and 3310), are to be read together there is no limitation placed upon the authority of the Commissioner as to fixing the proportion of the expense to be borne by each company.

The Attorney General contends that Sec. 3310 is to be construed independently and that the Commissioner is authorized to fix the proportion in his discretion. It will be seen, however, that no such power is expressly given by this section nor does this section in terms give authority to require the railroads to bear the expense at all, although it is clear enough that this was expected. The two sections are in part materia.

Both relate to provisions for safety at crossings and should be construed together. Thus construed the first section fixes the proportion to be borne by each company.

The writ must issue. (Signed.)

R. M. MONTGOMERY.
C. B. GRANT.
FRANK A. HOOKER.
CHAS. D. LONG.
J. B. MOORE.

Upon receipt of this writ the Commissioner caused amended orders to be issued for the equal division of the expense of construction and maintenance of the interlockers in question. Upon the issuance of these amended orders the Ann Arbor Railroad Company and the Cincinnati Northern Railroad Company applied for a rehearing of the entire matter alleging that they had only agreed to the first orders being issued upon the understanding that the Wabash company was to pay the greater part of the expense, and that as far as their companies were concerned the necessity did not exist to such an extent as to justify the payment of one-half the expense, and they asked for a re-opening of the case, in order to attempt to show that from their standpoint, the interlockers at these crossings were not a necessity.

Briefs and arguments were presented by the attorneys of the companies in interest upon this request, and no sufficient reasons being furnished for the re-opening of the case the request was denied.

It will be observed that by the foregoing decision of the Supreme Court, it is not left to the discretion of the commissioner of railroads to divide the expense of installing interlockers or other safety devices or appliances at the crossings of railroads where the same have each been in operation for a period of time. The court, in substance, says that the Commissioner of Railroads erred under the statute in deciding that a division of the expense in installing safety devices, should be adjusted in accordance with the apparent amount of traffic on each of the roads interested and in the future should couple Sections 3301 and 3310 and read together these two acts in arriving at an adjustment of the expense to be divided between the roads interested. Thus it will be noted that in the adjustment of expense of all future cases of this nature, the cost for construction, operation and maintenance must be an equal division between all roads affected. However, this decision does not affect the action of the Board of Railroad Crossings in the approval of a map showing the route of a new road and the award of expense in crossing other roads then in operation. In this instance the expense of installing interlockers or bridges, where grades are ordered separated, falls entirely upon the proposed new railroad. The expense of operation and maintenance in such cases, is assessed equally upon the roads affected.

DANGEROUS ELEMENTS NOW ONLY REMOVED BY SUIT AT LAW.

In my judgment, the statutes are inadequate for the protection of life and property in certain cases. Several of the public acts provide only for an action in assumpsit for placing and maintaining dangerous obstructions upon and over railroad tracks, and the enforcement of orders of the commissioner of railroads requiring removal of causes of great danger. The statutes alluded to, more particularly, are here named, and it is my judgment that better protection and more prompt compliance with official orders, issued by this department, would result, could the right of action be changed from civil to criminal, for violation thereof:

An act to prevent passenger trains passing over a railroad bridge after the condemnation of the structure.

Sec. 33, R. R. Laws, 1899.

An act to regulate the construction of the tracks of railroads and street railroads across each other, and the stringing of wires, electric or other, over railroad tracks and relative to the maintenance of such tracks heretofore so constructed and wires heretofore so strung.

Act 171, P. A. 1893.

Employment of engineers, train dispatchers, conductors, firemen, brakemen or other railroad servant, who uses intoxicating drinks as a beverage.

Sec. 158, R. R. Laws, 1899.

An act to protect the lives and property of persons at the crossings of railroads and public highways, within the state of Michigan.

Act 136, P. A., 1897.

For violation of certain orders issued under the police regulations conferred upon the commissioner of railroads to prevent loss of life and

property in failing to equip passenger trains with air or power brakes.

Sec. 154, R. R. Laws, 1899.

An act to provide for the safety of brakemen and other employes on railroads.

Act 190, P. A., 1881.

An act to prevent, upon any passenger train, the carrying of kerosene, benzine, naphtha, gasoline or any other inflammable oil or fluid, other than such as may be necessary for lighting or lubricating the trains on which such oil is carried.

Act 191, P. A. 1881.

An act to provide for the better protection of lives of passengers and employes on railroad trains.

Act 118, P. A. 1887.

An act requiring railroad companies or corporations, owning or operating roads in this State, to so adjust, fill or block the frogs, switches and guard rails on their roads, in all yards, divisional and terminal stations and where trains are made up, as to prevent the feet of employes or other persons from being caught therein.

Sec. 175, R. R. Laws, 1899.

Enforcement of orders requiring railroad companies to fence their right of way.

Sec. 170 R. R. Laws, 1899.

An act to prevent railroad companies from lighting passenger coaches with naphtha, fluid, oil, or other substance or material which will ignite at a temperature of less than three hundred degrees Fahrenheit.

Sec. 172 R. R. Laws, 1899.

Construction of a bridge over tracks of a railroad or railroad laying its tracks under a bridge less than 18 feet in height.

Act 167, P. A. 1877.

There appears to be an absence of any provision in the statute for the punishment of a trespasser upon the tracks of a railroad. An act with such a wise provision would, in my judgment, save many valuable lives annually.

RAILROAD LEGISLATION PASSED AT THE SESSION OF 1899.

Very little important legislation affecting the railroad interests in this State was passed at the last session. The bill which was considered to be of the most importance was what is known as the Atkinson Bill, an act providing for the assessment and levy of taxes against railroad, express, telegraph and telephone companies.

This bill was passed and a board, provided for in said act, was regularly appointed by the governor, but by a decision of the Supreme Court the act was to be declared unconstitutional.

An act was also passed providing for the appointment of a commission, consisting of the commissioner of railroads, state treasurer and secretary of state, to negotiate with all companies operating under special charters, for the surrender of such charters, and for the reorganization of the companies under the general railroad laws, this commission to report to the governor and he to later make recommendations to the legislature.

An act was also passed providing that claims for labor and judgments for damages on account of death or personal injury, shall become a prior lien against railroad companies.

Also an act passed providing that maps, filed for the approval of the Board of Railroad Crossings, need only be certified by the president and secretary of the railroad company, instead of by a majority of the board of directors.

Also an act passed providing for the service of processes on the conductors of freight or passenger trains in counties in this state where there are no station agents.

A number of bills were introduced which were considered to be of considerable importance by the department, the most important one of which, perhaps, was a bill providing that electric companies should be brought under the jurisdiction of the department of the commissioner of railroads, the same as steam railroad companies. Did not pass.

Another one was providing that electric cars might be permitted to pass crossings of steam railroads, which are provided with first-class interlocking appliances, without being required to come to a full stop. Did not pass.

Another one was to more clearly define the powers and duties of the commissioner of railroads, with reference to ordering the construction of station buildings and station facilities, the present act being very unsatisfactory. Did not pass.

Also a bill providing that all railroad companies shall be required to keep for sale 500 mile tickets, good for use by the purchaser, his wife and family. Did not pass.

Also a bill providing for the sale of interchangeable and redeemable thousand mile tickets, good for use on all railroads doing business in the state. Did not pass.

Bills providing for the repeal of all special charters under which railroad companies are operated. Did not pass.

A bill prohibiting the use of passes by all public officers. Did not pass.

A bill to provide for the punishment of persons getting on or off trains while in motion. Did not pass.

A bill requiring railroad companies to weigh grain and grain products on request of shippers, and give certificates of the same. Did not pass.

A bill providing that the tracks of all interurban railways shall be located not nearer than twenty (20) feet to the center line of any highway. Did not pass.

MECHANICAL ENGINEER'S REPORT.

TO THE HON. CHASE S. OSBORN, *Commissioner of Railroads*:

SIR—The regular annual inspection of the railroad properties in this state, as required by law, has been very carefully made by the department during the present year, and all railroads have been thoroughly examined, for the purpose of determining their efficiency, not only for the protection of the traveling public, but also in the interest of employes and persons who are compelled to cross their lines at the numerous public crossings.

It is very pleasing to be able to report that there is a very noticeable general improvement, in the condition of the road-bed, track and equipment of all lines doing a general business in the state, which improvement is not only made possible by the increased freight and passenger traffic, and the consequent increase in revenue therefrom, but in some instances is made necessary by such increase, and the increased size and speed of the locomotives and cars used in carrying such traffic. It is noticed that in a number of instances special attention is being paid to the reduction of grades and the alignment of curves, for the purpose of permitting the companies to carry the fast through business to a much better advantage and at less expense, this class of traffic having shown a very gratifying increase in the past few years, largely on account of the number of lines which are now connected with car ferries, which enable them to carry a large amount of through business, between the east and west.

Very decided improvements have been made during the year upon the permanent way of nearly all roads in the state, by extensive renewals of steel rails, ties and the filling of bridges and culverts.

Notes from the annual inspection show that there have been a large number of bridges rebuilt, and a great many bridges and culverts have been filled.

Steel rail renewals have been extensively made during the year by nearly all the important lines in the state. In addition to the new rails used for renewals some of the larger roads are utilizing their worn steel by sawing off the battered ends of the rails and relaying it with trussel or supported angle-bar joints. Worn rails thus treated make a very good track.

Wooden bridges are being replaced by steel and stone structures, while each year the wooden trestles are gradually giving place to embankments or fills of earth which is a very desirable improvement to the road and an additional safety to the traveling public.

In the item of ties there have been large renewals. Companies in general have not confined themselves to any particular kind of ties owing to the difficulty in securing any one kind. Where the soft wood ties are used they are generally confined to the straight line, with an additional safe-guard placed on them in the way of a metal tie plate, while the hardwood ties are generally reserved for the curves.

The majority of roads have done considerable ballasting this year, and

I am pleased to note that the general condition of the road-bed is very materially improved. It is also noted that the surface and alignment of track is generally good.

Passenger stations have been well maintained during the year. Much improvement is noticed in sanitary condition, neatness, and the greatly improved construction of station platforms. The general tendency is to substitute concrete and stone for plank. Much attention has been paid to the beautifying of station grounds.

It now appears probable that within the next year the long projected and urgently demanded union station at Durand, will be an accomplished fact.

There are numerous passenger stations throughout the state that should be replaced with more modern structures. It has been promised that at different points on lines of railroad new passenger stations will be erected the coming year.

SWITCHES AND FROGS.

The situation regarding the blocking of frogs, guard rails and switches, as required by law, despite the fact that special attention is being given it by railroad managements, seems to be still inadequate, which is largely due to the fact that no satisfactory method has, as yet, been devised. A number of devices are in use on the various roads in the state, but none of them have given evidence of sufficient efficiency to warrant their general adoption.

INTERLOCKING SWITCH AND SIGNALS.

There are 116 crossings of steam railroads protected by interlocking switch and signal systems which have been constructed by orders of the Board of Railroad Crossings, Commissioner of Railroads, or by mutual agreement of the companies in interest. The introduction of interlocking and derailing switches which makes possible a quicker service with safety, has been recognized by all railroads and a number of crossings are being protected by mutual agreement of the companies in interest. I would urge the necessity of electric locking of levers operating derails and signals in main line service. By the use of such device all possible danger of signal men changing route, after train has entered the electric circuit, is avoided. Without this device signal men can change the derail after train has passed the distant signal. This has been done in numerous cases and after such occurrences engine men lack confidence in both home and distant signals, as long as the schedules require the high rate of speed to make the required time, as they do at present. It is very necessary that levers operating derails and signals should be electrically locked to secure safety. On account of the increased amount of traffic, as well as the increased rate of speed, it has become very important to consider the advisability of protecting all main line crossings. In bringing about this desired change it would be unreasonable to ask the railroad companies to do all this work at once, but each crossing must be considered separately upon its own merits. The more important ones should be first considered and the entire interlocking plan be completed as soon as consistently can be done.

CROSSINGS.

The question of vital importance to the public, as well as to the railroad companies operating lines in this state, is street and highway crossings. The number of highway crossings reported by the railroad companies at the close of the year is 8,280, of which 8,059 are at grade, 136 overhead, 85 under, 576 protected by gates or flagmen, and 104 by electric bells.

The new installation of crossing protection during the period under report, is 13 crossings protected by gates or flagmen, and 17 by crossing alarm bells, besides a number of crossings where the speed of trains has been reduced.

The daily report to this office, of the inspection of alarm bells, shows that this protection has not proven as satisfactory as was hoped for, but later reports show a decided improvement in the operation of these bells. I am of the opinion that with proper care this form of protection is adequate at certain kinds of crossings.

Grade crossings are necessarily a source of great danger, notwithstanding the co-operation of the railroad officials and their employes; there are still, by far, too many accidents to persons, killed or injured, from this cause. But in a great many instances this is found to be due to the negligence of the persons themselves. There were twenty persons killed and twenty-nine injured during the last year at street and highway crossings, this being a large proportion of the accidents that occurred on the entire lines.

RAILROAD AND STREET RAILWAY CROSSINGS.

The matter of proper and reasonable protection at this class of crossings has been the subject of considerable discussion.

For all existing street railway crossings at grade there should be provided some means of stopping or derailling the cars if they run past a certain point, as many accidents occur through carelessness or neglect on the part of the motorman. The law requires that the car must be stopped and the person in charge shall make sure that no engines or trains are approaching on steam road, before crossing. This provision would seem to be reasonably adequate for the protection of this class of crossings, if it were possible to have it always complied with, but the trouble appears to be that the person in charge of car sometimes becomes careless, especially at crossings where the travel on steam roads is irregular and infrequent, and fails to take the necessary precaution and make the required stop. For this reason it has been considered necessary to equip these crossings with some kind of mechanical appliance which will render it absolutely necessary for electric cars to come to a full stop as required by law, before they can make the crossing.

The increased weight, speed and momentum of electric cars, and the numerous accidents and narrow escapes at railroad crossings, have made it evident that the crossing of a steam railroad and an electric railway should be as effectively protected as the crossing of two steam railroads, and should be under the same regulations as are now required by state laws for the latter. This is especially important in view of the great

development of suburban and country lines of electric railways, on which cars are run at a high rate of speed, being unobstructed by road traffic as in city streets, and it is a matter of congratulation that in some states there has been a check put upon this multiplication of grade crossings by electric railways, and over or under crossings are insisted upon, and this department has taken decided steps in ordering a separation of grades wherever practicable, for the crossing of electric cars over steam railroads. It is found to be reasonable and feasible to separate grades of this nature, at a great many points where it would be quite difficult to bring about the same result at the crossings of two steam roads, on account of the ability of electric roads to ascend much steeper grades than can be done by steam roads, thereby rendering it possible to build the necessary structures at much less expense, and obviate all expense and danger incident to grade crossings.

EQUIPMENT.

The general condition of motor power, passenger coaches and freight cars has been found to be adequate for the requirements in point of safety. Continued activity in the shops of the companies has been maintained, and the result is that there has been a decided progress in the equipment of freight cars with automatic couplers and air brakes. Many of the larger companies are equipping their roads with heavier and more powerful locomotives, and freight cars have increased capacity and the general condition of the equipment has been found to be satisfactory.

FENCING.

Progress in the fencing of the railroad's right of way continues to be made. There have been a number of complaints to this department of the inefficiency of fencing, which have been promptly taken up, and an inspection made of the premises, and companies have generally complied with the orders from this department.

LIGHTING AND HEATING OF CARS.

Not least in the list of changes that have taken place, is the lighting of passenger trains by gas and electric light. Steam heat from the engine is in many instances supplanting less approved methods and is another marked change for the better. In a number of cases where frail heaters have been found the companies have been notified to remove them, and have promised to comply with the orders.

ANN ARBOR RAILROAD.

Inspection of this line was made August 2 and 3, 1899. This line has been making some very desirable improvements during the period under report, in the way of cutting down grades and changing line of road so as to avoid heavy grades. In the months of July and August a great deal of new steel rail was laid on main line, 70 pounds to the yard; a number of passenger stations have been remodeled; station platforms have

received considerable attention; new right of way fences have been built, and a great deal of ballasting has been done, with a superior quality of gravel. The wooden bridge structures are being replaced by the very best of steel; all wooden culverts are being replaced by iron pipe; interlocking switches and signals are in good serviceable condition. Motive power and equipment is good; about 80 per cent of freight cars are equipped with automatic couplers and 90 per cent with air brakes.

It was noticed that highway crossing signs and plank need renewing at different points. Blocking of frogs and switches inadequate.

The general condition of this road was found to be satisfactory, with the exceptions herein noted.

ARCADIA & BETSEY RIVER RAILWAY.

Inspection was made of this line on July 21, 1899. The general condition of this property is fair with the exceptions herein noted. The switch stands and blocking of frogs were found to be inadequate; the stoves in use on the passenger coaches were unsatisfactory; fences will also need renewing in the near future.

These matters were called to the attention of the management, and it was promised that they should have immediate attention.

AU SABLE & NORTHWESTERN RAILROAD.

Inspection made December 5, 1899.

This is a narrow guage road with 30, 35 and 40 lb. rail to the yard, in fair condition; 2,800 ties are used to the mile. Rail, ties and road bed are in fair condition. The half interlocker at the crossing of the Detroit & Mackinac Railway is in good, serviceable condition; bridges have been overhauled and are adequate for the service, in point of safety. This road is practically a logging road and has two branches which are used exclusively for logging purposes. The passenger cars are equipped with stoves that are unsatisfactory; coaches have no fire protection for immediate use as required by law. There is very little fencing along this line, but apparently no necessity for any. The blocking of frogs, guard rails and switches is inadequate, but motive power and equipment is satisfactory.

BOYNE CITY & SOUTHEASTERN RAILROAD.

Inspection was made December 8, 1899.

This is a standard guage road that runs from Boyne Falls to Boyne City, and does passenger business on this line. It also has two branches used exclusively for logging purposes. This road has 30 and 40 lb. rail, 2,640 ties to the mile, rail laid with fish plates and angle bars. Bridges are satisfactory.

The half interlocker in service at the crossing of the Grand Rapids & Indiana Railway at Boyne Falls is in good working order. At present there are no station buildings on this line, but the company has under construction a very neat and serviceable depot at Boyne City, which is a very desirable improvement. It was found that the heaters in the

coaches were not satisfactory; it was also noted that trainmen were not provided with badges as required by law. These matters, with the unsafe condition of an engine truck wheel, were called to the attention of the management, and immediate attention was promised.

GRAND TRUNK SYSTEM.

Inspection made October 19, 20 and 21, 1899.

The main line in this state, from Port Huron to Granger, is in excellent condition. The company is laying double track between Port Huron and Granger, with 80 lb. steel rail; 2,800 ties are used to the mile. All bridges are in good condition. Extensive improvements, in the way of stations, station platforms and grounds are receiving attention. Right of way is comparatively clean; gravel ballast of a superior quality is furnished. With the excellent passenger service afforded the public, and with the completion of the double track, it will become one of the best lines in Michigan.

The D. G. H. & M., C. S. & M., and Air Line Divisions of this system, although not in as good condition, are satisfactory and well maintained, there being a large amount of work done on these divisions this year, in the way of renewal of ties and ballasting of track. It was noted on these branches that the right of way fences, wing fences, cattle guards and highway crossings, signs and plank will need renewing in the near future. Considerable new fence has been built on the D. G. H. & M. branch.

The T. S. & M branch has 60 lb. rail in good condition. The company has renewed a large number of ties this year, but there still remain a large number of ties distributed along the line for renewals. Right of way fences, cattle guards, crossing signs and plank are in poor condition; also a number of station buildings on this division are indifferently maintained.

These matters were brought to the attention of the officials of the company, and it was promised that they should have their immediate attention.

The interlocking machinery protecting grade crossings of railroads is efficiently maintained. Frogs, guard rails and switches are blocked with wood, very few being found that were not effectively blocked; a number of track openings were filled and bridges have been thoroughly repaired.

The company has constructed one of the most modern round houses in th state, also large freight train yard and modern coal shed, at Port Huron.

The motive power and equipment is first-class, and the police requirements are well observed by this company.

CHICAGO, KALAMAZOO & SAGINAW RAILROAD.

This line is in good condition; 8,377 ties have been used in renewals; four bridges of 550 lineal feet have been rebuilt, 6 bridges and culverts filled, 8 culverts have been rebuilt with stone. The road is fenced the entire length of line, but fence will need renewing at different points in the near future. A number of crossing signs are weather-beaten and are

of little use for the purpose for which they are required. The bridges over the Thornapple and Kalamazoo rivers are first-class structures and in excellent condition; one and one-half miles of new track has been constructed at the beet sugar factory at Kalamazoo.

Motive power and equipment is satisfactory; frogs, switches and guard rails are blocked with wood.

CHICAGO, MILWAUKEE & ST. PAUL RAILWAY.

The main line from Champion to Iron Mountain is in excellent condition and well maintained. Large renewals of ties, also considerable ballasting of track have been accomplished this year; 17 miles of new rail has been laid and 25 miles of new fence has been built, together with thorough repairs to all bridges.

The Ontonagon branch, from Channing to Ontonagon is in good condition and equal to the requirements in point of safety.

Extensive improvements have been made on this branch in the way of filling bridges and changing line of road, so as to avoid one of the largest bridge structures in the state which would otherwise need to be rebuilt. The permanent way and structures are satisfactory, and motive power and equipment good; 48,000 ties have been renewed, 29 bridges filled. Frogs, guard rails and switches are effectively blocked.

CHICAGO & NORTHWESTERN RAILWAY.

Inspection made September 12 and 13, 1899.

The main line of this company in Michigan was found to be in first class condition; depot facilities are adequate; the modern equipment and fast time in freight and passenger service has been fully maintained; 197,468 ties have been renewed; 1,736 tons of 72lb. rail have been laid; 5 bridges of 556 lineal feet have been rebuilt; 11 bridges and culverts have been filled, making 271 lineal feet. All cars are equipped with automatic couplers and about 75 per cent of all cars are equipped with air brakes. The right of way and fences are in good condition. The ore branches were found to be adequate for the requirements, in point of safety. Frogs, switches and guard rails are efficiently blocked with wooden blocking; the wire crossings of the company were found unsatisfactory. It was also noted that the highway crossing signs were not as required by law. The management of the company has promised to have these matters attended to. Motive power and equipment in good condition.

CHICAGO & WEST MICHIGAN RAILWAY AND DETROIT, GRAND RAPIDS & WESTERN RAILROAD.

Inspection made August 29, 30, 31 and September 1 and 2, 1899.

These roads are operated as one system, and is the second largest in the state. The inspection of these lines shows the track in good condition and well maintained; extensive improvements in depot facilities and the beautifying of station grounds have been made. The train service furnished by this company is all that could be desired. Several bridges have been rebuilt; new steel has been laid, also large renewals of ties. The

company contemplates changing its line of road at different points, so as to avoid heavy grades and excessive curves; the interlocking machinery protecting grade crossings of railroads, is satisfactory; iron pipe is being used in all renewals of wooden culverts. The company is also experimenting with the Q. & C. dustless track system. Motive power and equipment first class. Frogs, guard rails and switches are blocked with wood, crossing signs and plank need renewing at different points; switch stands need painting. The last points made mention of were taken up with the company and it was promised they should have immediate attention.

The branches are found to be safe and adequate for the requirements in point of safety. The inspection of the Chicago & West Michigan Railway and Detroit, Grand Rapids & Western Railroad has developed a commendable efficiency. On the Chicago & West Michigan 260,580 ties were used; 1,518 tons of 70 lb. rail laid for renewals; 6 bridges and 27 culverts filled; all freight cars are equipped with automatic couplers; 75 per cent equipped with air brakes.

The Detroit, Grand Rapids & Western has used 185,402 ties and 1,012 tons of 70 lb. rail for renewals; three bridges have been rebuilt and three partially filled, and 37 culverts renewed with iron pipe. All freight cars are equipped with automatic couplers; 50 per cent equipped with air brakes.

CINCINNATI NORTHERN RAILROAD.

Inspection made October 12 and 13.

This road has 52, 56 and 60 lb. rail; ties, road-bed and rail fairly well maintained. The light rail is laid with fish plates and angle bars. The traffic has become quite heavy on this road and the 52 lb. rail should be removed. The company has renewed 28,316 ties this year; bridges have been thoroughly repaired; other bridges have been rebuilt within two years. Station buildings are adequate; right of way fences are in fair condition; engines and coaches are equipped as required by law, with the exception of stoves for heating purposes, which the company has orders to replace with heater which has been approved by the commissioner. Frogs, guard rails and switches are generally blocked. About 55 per cent of the cars are equipped with automatic couplers, and 25 per cent equipped with air brakes.

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS RAILWAY.

The general condition of the track, right of way and stations, is satisfactory, and adequate for the requirements in point of safety. The company has built 8 miles of new fence, renewed 6,767 ties, and 516 tons of new 65 lb. rail.

It was noticed in several places that wing fences and cattle guards received very little attention; also that the blocking of frogs, guard rails and switches was inadequate.

The officials of the company promised to remedy this at once. Motive power, equipment and train service satisfactory.

DETROIT & LIMA NORTHERN RAILWAY.

Inspection made July 28, 1899.

The bridge structures are efficient, and station buildings are adequate for the comfort and convenience of the public; the general condition of the track is fair and is adequate for the requirements in point of safety. In the month of July the company laid 5 miles of new steel rail, and during the period under report 15,000 ties have been renewed. The blocking of frogs, switches and guard rails does not receive the attention required by law; the interlocking machinery at grade crossings with steam and electric railways is in good, serviceable condition.

The interlocker at Delray, ordered by the commissioner in 1898, which was intended to interlock 5 Michigan Central spur tracks and draw bridges has not been put in as yet. There were several highway crossings without sign boards; about ten miles of fence has been built this year. Equipment is in fair condition and as required by law.

DETROIT & MACKINAC RAILWAY.

Inspection made September 22 and 23, 1899.

The main line from Bay City to Alpena is excellent and well maintained; the track is being ballasted with a superior quality of gravel. The right of way fences, crossing signs and plank, cattle guards and wing fences were found to be efficient.

The company has built 33½ miles of fence this year, laid 2,000 tons of 70 lb. rail and renewed 50,000 ties and built 12 miles of logging branches. Depot facilities are adequate for the accommodation of the public. The company is doing considerable work on the track between Alpena and Onaway, also extending its line nine miles beyond Onaway. It is proposed to extend this line to Cheboygan. The Prescott branch is generally fenced. There are no station buildings and apparently no necessity for any. Rail 56 lb. to the yard; ties and road-bed are in fair condition. From Emery Junction to Rose City, on the Rose City branch, the track was found to be dilapidated and indifferently maintained. Considering the traffic and the schedule time of trains, this branch is only reasonably safe. It was promised by the management of the company that this branch should have immediate attention.

The Valentine Lake branch is in fair condition; no fences or station buildings, and apparently no necessity for any. Sixty per cent of all freight cars are equipped with air brakes and 75 per cent with automatic couplers. Motive power and equipment in good order. A number of switches and frogs were noticed where the blocking was inadequate.

DULUTH, SOUTH SHORE & ATLANTIC RAILWAY.

The general condition of track, bridges and equipment shows a decided improvement during the year. A great deal of work has been done on this road, in the way of cutting down grades, the filling of bridges, rebuilding of bridges and the laying of new steel rails and renewal of ties. Nineteen bridges have been rebuilt, involving 2,602 lineal feet of wooden structure, and 200 lineal feet of steel plate girders; 15 bridges

involving 6,101 lineal feet have been filled or partially so, taking 141,918 cubic yards of earth; 5,000 tons of new 60 lb. rail has been laid; 5½ miles of new track has been built and about 19 miles of fencing.

This company, will, during the coming year erect a handsome passenger station at Marquette costing nearly \$100,000, and joins in the erection of a large union passenger depot at Sault Ste. Marie.

About 50 per cent of cars are equipped with automatic couplers and about 33 1-3 per cent equipped with air brakes.

The Mineral Range and Hancock & Calumet Railroads, which are under the Duluth, South Shore & Atlantic management, were found to be in good condition and have renewed 10,948 ties and built 12 miles of fencing. Motive power and equipment and general service is satisfactory.

FLINT & PERE MARQUETTE RAILROAD.

Inspection made October 16, 17 and 18, 1899.

The general condition of this property was found to be satisfactory. The branches are found to be in a safe condition and adequate for the requirements in point of safety. Improvements are being made on this line of road in the way of cutting down grades, filling in of bridges, renewing of ties and the laying of new steel rails.

It was noted at several highway crossings that there were no signs and at other crossings signs were weather-beaten, so as to be of little use for the purpose for which they are required. The fencing will need renewing at different points along the entire line in the near future. Engines and equipments are satisfactory; coaches are equipped with Peter Smith hot water heater and Gold System steam heat, lighted by lamps, Pintsch gas and electricity. Seventy-five per cent of freight cars are equipped with automatic couplers and about 16 per cent equipped with air brakes; 22 bridges have been filled, involving 945 lineal feet; 9 bridges rebuilt, involving 1,018 lineal feet; 2,200 tons of new steel rail has been laid, 70 lbs. to the yard, and 345,132 ties renewed. The company has decided to use the tie plate quite extensively, and it has necessitated a large amount of work to prepare the ties in the road-bed, which is being done by a machine which was invented by Mr. George M. Brown, chief engineer. Briefly, the working portion of the device consists of a number of circular saws, running in groups, upon a common shaft, which is suspended crosswise the track and held in position to cut grooves each side each rail. The purpose is to cut a groove near, and level with, the base of the rail, so that the trackmen will have a gauge to work to when adzing the tie to "straighten up" a tilted rail, or when relaying rails with a new rail having a wider base than the old one, or when putting in tie plates.

WISCONSIN CENTRAL SYSTEM. GOGEBIC & MONTREAL RIVER RAILROAD.

Inspection made September 12, 1899.

The main line of this company in Michigan, from Ironwood to Bessemer, six miles, is in good order and well maintained. Depot facilities are adequate for the accommodation of the public.

The blocking of frogs does not receive the attention required by law. Right of way fence is satisfactory; 4 steel bridges, between Ironwood and Bessemer, are adequate for all requirements, in point of safety; 9,362 ties have been renewed and one culvert filled.

GRAND RAPIDS & INDIANA RAILWAY.

Inspection made September 6, 7 and 8, 1899.

The main line of this company in Michigan, is well maintained, although it was noted that in several places crossing signs were broken or weather-beaten, so as to be of little use for the purpose required. The right of way fence and wing fences, were found in fair condition. A change of the line from Rockford to near Belmont has recently been made, which is a valuable improvement, as it dispenses with the necessity of renewing 6 bridges; the bridge over Rouge river, at Rockford, has been replaced with a heavy modern steel structure; the company has also renewed the bridge over the Kalamazoo river with a steel structure, also several other valuable improvements in the way of renewals; 152,435 ties and 3,017 tons of 70 lb. rail have been renewed on main line and branches; 7 bridges rebuilt, involving 210 lineal feet; 15 bridges have been filled; 6 miles of new fence; 17 miles of fence rebuilt and 2 new passenger stations built. All freight cars are equipped with automatic couplers; 50 per cent equipped with air brakes. Motive power and equipment on this line in good shape. Excellent train service is afforded on main line, while on the branches the train service seems to be adequate for the requirements. All branches are found to be in a safe condition and equal to the requirements in point of safety. The company in preparing their track for the renewal of rail has decided to use the metal tie plate quite extensively, and has prepared the ties in the road-bed for the same, by using what is known as a tie spotting or grooving machine owned by the F. & P. M. R. R.

The blocking of frogs, switches and guard rails is unusually bad.

LAKE SHORE & MICHIGAN SOUTHERN RAILWAY.

Inspection made September 27 and 28, 1899.

The main line of this company in Michigan is in excellent condition. Particular attention has been paid to ballasting the line, and the surface, alignment and general condition of the track is unusually good.

The Detroit, Jackson, Lansing & Kalamazoo Divisions are also in good condition, and well maintained.

The Ypsilanti, Fort Wayne & Adrian Divisions have received considerable attention, as well as the main line, and it is safe to say that the track on the main line and branches of the L. S. & M. S. Ry. is equal in point of excellence to any line in the state. 111,118 ties have been renewed; 920 tons of steel rail renewed, 80 lb. to the yard; 11 bridges rebuilt, making a total of 592 lineal feet; 12 bridges have been filled, involving 2,073 cubic yards of earth; 51 miles of fence has been built.

All freight cars are equipped with automatic couplers, about 80 per cent equipped with air brakes. Motive power and passenger equipment in excellent condition, and equipped as required by law; station buildings are adequate, with all reasonable accommodation for the comfort and con-

venience of patrons. Bridges and interlocking machinery are well maintained. Frogs and rail angles are blocked with wood. It was noted that right of way fences, crossing signs and plank, also cattle guards, needed renewing at different points. Aside from this very little or no fault can be found with the property of this road.

LOWELL & HASTINGS.

Inspection made November 24, 1899.

The ties, rails and road-bed are in good condition and well maintained; the road is fenced the entire length. Frogs and switches are blocked with wood; engines and passenger coaches equipped as required by law, with the exception of fire protection for immediate use in coaches. All highway crossing signs should be renewed. The company will build a new passenger station at Lowell this winter. The company is extending its line to Belding and will have same in operation by December 1, 1899. New line has 60 lb. rail, 2,816 ties to the mile; entire line is fenced; road-bed is in very good condition for new road. Bridges and interlocking machinery are satisfactory; 4,000 ties have been renewed on old line this year; 4 bridges rebuilt. No freight cars equipped with automatic couplers or air brakes.

MANISTEE & GRAND RAPIDS RAILROAD.

Inspection made November 2, 1899.

This road is generally a logging road; 60 lb. steel rail, ties and road-bed in good condition; about one-fourth of line is fenced. No station buildings of any account, and apparently no necessity for any. The blocking of frogs is inadequate. Freight cars are equipped with automatic couplers; 10 per cent equipped with air brakes. No switch lights; no telephone or telegraph system; bridges are adequate in point of safety; no passenger cars; motive power is satisfactory.

MANISTEE & NORTHEASTERN RAILROAD.

Inspection of this road, which was made August 4, 1899, shows that the general condition of the track, fences and station buildings is good; 24,604 ties have been renewed; 400 tons 60 lb. rail laid; 9 miles of new track built; 6 bridges rebuilt, involving 320 feet; 6 miles of new fence has been built. No freight cars equipped with automatic couplers or air brakes; engines equipped as required by law; coaches equipped as required by law. The interlocking device at Interlochen was found in good condition. Important changes are proposed in the terminal facilities at Manistee, with the Flint & Pere Marquette Railroad.

THE MANISTIQUE RAILWAY.

This line extends from Grand Marais to Germfask, and is in very fair condition and very satisfactory for the requirements of the traffic presented. The steel used in the track is 60 pounds to the yard, with 3,000 ties to the mile. The general condition of the road-bed and alignment of

track is good. The frogs, switches and guard rails are blocked as required by law. The locomotives are equipped with power brakes and the passenger cars are heated, lighted and provided with fire protection as required.

MANISTIQUE & NORTHWESTERN RAILWAY.

Inspection was made October 5, 1899.

The total mileage of this road is 59 miles. Nine and one-half miles of this are laid with 40 lb. rail, 27 miles with 60 lb. rail, and 22½ miles with 35 lb. rail. The road was opened from Manistique to Shingleton, January 2, 1899, a distance of 39½ miles.

The new line connecting the old line with Shingleton is very rough and the entire road is in need of ballasting, but it is reasonably for the traffic it has and the time made.

Blocks were badly out but have been ordered and are reported in.

The road has one good combination coach and runs one mixed train each way per day.

Brakemen were not supplied with badges as required by law, and it was directed that they be supplied.

It has been reported to the office that all requirements have been complied with.

MASON & OCEANA RAILROAD.

Inspection made December 7, 1899.

This is generally a logging road, although a passenger business is done on the main line from Buttersville to Walkerville; 31 lb. rail with 3,000 ties to the mile. Road-bed, ties and rail are in fair condition. Important changes have been made in the line of road so as to avoid heavy grades and curves; bridges are satisfactory. Number of ties placed in track during year 15,000. There are two branches which are used exclusively for logging purposes. Engines are equipped with power brakes; no switch lights; road is partially fenced; no highway crossing signs; frogs, switches and guard rails insufficiently blocked.

MICHIGAN CENTRAL RAILROAD.

Inspection made September 18, 19, 20 and 21, 1899.

The property of this company in Michigan was found to be in first-class condition, and well maintained. In the matter of station buildings this company is excelled by no other in Michigan. The well known standards in equipment, structural specifications and maintenance have made this one of the best roads in the state. All interlocking machinery and automatic block signal systems receive careful attention. The company is making very desirable changes in the way of rebuilding bridges, also introducing the ballast floor bridges quite extensively; 523,335 ties have been renewed, also 2,334 tons of rail; 9 bridges rebuilt and 4 filled, involving 1,072 lineal feet; 2 passenger stations have been built. All but 31 freight cars are equipped with automatic couplers, about 52 per cent equipped with air brakes.

Motive power and passenger coaches equipped as required by law. Rail angles effectively blocked.

This company has, through its chief engineer, Mr. A. Torrey, devised a plan whereby the problem has been solved how to get ballast loaded and distributed in small lots, without interfering with the movements of trains, and without keeping cars intended for other purposes out of service. Briefly, the loading machine consists of a four wheel platform car housed over, to the sides of which is attached a frame supporting two conveyors; each conveyor is made of a 10 inch rubber belt to which galvanized iron buckets are fastened by stove bolts; the conveyors run through a hopper which is supplied with gravel by men using large grain scoops with long handles; the work is made easy for the men by suspending each shovel with a rope from an over-head frame. In this way the men are required to do very little lifting. The conveyors are driven by a $2\frac{1}{2}$ horse power gasoline engine which uses from $2\frac{1}{2}$ to 3 gallons of gasoline per day.

The cars which are used for this service are, briefly, what might be termed a double deck ballast car; the cars are so constructed that 15 yards of gravel is loaded on the lower deck and the same amount on the upper deck; the Michigan Central has 18 of these cars in service. The gravel in one car is distributed along about 75 feet of track; 6 men load 9 of these cars per day, and are taken out on freight trains and ballast is distributed wherever needed.

This company has a rail sawing machine which they use for cutting off the ends of rails that are worn and unfit for service. Rails are rebored for angle bars, then they are put into service again. The crop end which is cut off is used to reinforce the angle bars at rail joints; this is done by inverting the crop end and placing it under the joint and adjusting it by means of two "U" bolts. Rails thus treated make excellent track.

MILWAUKEE, BENTON HARBOR & COLUMBUS RAILWAY.

Inspection of this line from Buchanan to Benton Harbor, was made August 17, 1899.

It was found that the general condition of track was reasonably satisfactory and the train service and depot facilities fairly adequate for the requirements of the traffic presented.

The rail is 65 lb. to the yard and ties are oak, cedar and hemlock in good condition.

The engines and passenger coaches are equipped as required by law, and about 75 per cent of freight cars are provided with automatic couplers and air brakes.

It was noted that in a number of places the right of way fences had not been constructed as required by law, but it was promised that they would be built to the satisfaction of the people along the line immediately.

It was also noticed that the frogs, switches and guard rails were not all properly blocked; that the crossing plank at some crossings needed renewal, and that the noxious weeds on the right of way had not been cut, and when these matters were called to the attention of the management, it was promised that they should receive immediate attention.

This company has under consideration, a plan for the construction of a new union depot in Benton Harbor, to be used jointly with the Cleveland, Cincinnati, Chicago & St. Louis Railway, which is certainly a much needed improvement and one which would be appreciated by the traveling public.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE RAILWAY.

Inspection made September 11, 1899.

This line in Michigan, was found to be in excellent condition; 43,210 ties have been used for renewals; 11 bridges and culverts have been filled with earth; all bridges have been rebuilt within the past two years; 31,000 yards of ballast have been distributed on main line. Motive power equipment and service all that could be desired. Right of way fence has been built wherever requested. Frogs and switches are blocked as required by law. This company will join with the Duluth, South Shore & Atlantic Railroad and the Canadian Pacific Railroad in the erection of a beautiful cut stone passenger depot at Sault Ste. Marie. The erection to be completed this coming year. The structure will cost about \$100,000.

MUNISING RAILWAY.

Inspection made October 4, 1899.

This road was found to be satisfactory and equal to the requirements, with the exceptions herein noted. At Little Lake there were no switch lights or switch locks; stoves were found in service in passenger coaches which do not meet with the commissioner's approval. Brakemen had no badges as required by law. Blocking of frogs and switches inadequate at several places.

These matters were brought to the attention of the management and immediate attention was promised.

Motive power and equipment in good condition.

PONTIAC, OXFORD & NORTHERN RAILROAD.

Inspection made November 21, 1899.

Fifty-six lb. rail, 2,640 ties to the mile; large renewals of ties have been made this season. The surface and alignment of track is fair; road should be ballasted the entire length, although it is not dangerous in its present condition; on the return trip after the inspection, speed was maintained from 45 to 55 miles per hour; the bridges over Pigeon river are in fair condition; these bridges were critically inspected and repairs directed on same, which the company promised would have immediate attention. Right of way fences are in fair condition. The company has rebuilt about 30 miles of fence this year; crossing signs should be renewed at several places. Passenger coaches are equipped as required by law. The company's wire crossings should be reconstructed at once so as to comply with the railroad commissioner's specifications. Station buildings are small, but seem to be adequate. The switches are generally blocked.

SAGINAW, TUSCOLA & HURON RAILROAD.

This line is in good condition and well maintained. Particular attention has been paid to the ballasting, and the surface and alignment of track is good; 37,510 ties have been renewed this year; 6 bridges rebuilt; 3 bridges filled with earth. All freight cars are equipped with automatic couplers, and one car with air brakes. Motive power and passenger coaches equipped as required by law.

ST. JOSEPH, SOUTH BEND & SOUTHERN RAILROAD.

This was formerly the Vandalia Line; the track, equipment and service on this line is all that could be desired for the amount of traffic presented. The company is rebuilding two bridges, renewing 6,000 ties, 14 bridges and culverts filled, 1 station built. All cars are equipped with air brakes and automatic couplers. Coaches and engines are equipped as required by law, with the exception of fire protection in coaches. The blocking of switches and cutting of noxious weeds do not receive sufficient attention.

SOUTH HAVEN & EASTERN RAILROAD.

Inspection made November 25, 1899.

This road was changed from narrow to standard gauge in April, 1899. Rail is 67 lb. to the yard and in good condition; 2,640 ties are used to the mile; three-fourths of ties in track are new. A large amount of ballast has been distributed along the line of road; one large trestle, 410 feet long and 31 feet high has been filled; 14 wooden culverts have been replaced with tile pipe; crossing signs need renewing at several places; new bridge over Paw Paw river. The new half interlocker ordered at Hartford has been installed and is working satisfactorily. Fences are in poor condition.

WISCONSIN & MICHIGAN RAILROAD.

Inspection made October 3, 1899, from Faithorn Junction to State line, 31 miles; 56, 65 and 75 lb. rail; ties and road-bed are in fair condition. Important changes are being made in the way of changing the route of their line, thus avoiding heavy grades and curves; there are no station buildings of any account, and apparently no necessity for any; very little right of way fence; blocking of frogs, switches and guard rails inadequate; the stoves in use are not as recommended by the commissioner of railroads, and were ordered out of service. The company's telegraph wire crossings were ordered reconstructed; it is purposed to extend this line to Duluth. Company will construct 8 miles this year.

Considering the schedule time of trains and the traffic presented, and the general necessities, the service is adequate and the road passable as to the requirements in point of safety.

WABASH RAILROAD.

This road was inspected October 14, 1899.

The main line of this company in Michigan is in first-class condition; station buildings neat and clean and adequate for the accommodation of the public; 25,069 ties of oak and 3,135 tons of 80 lb. rail have been used in renewals this year; 5 bridges rebuilt and 6 filled; 9 miles of fence built and 7 miles rebuilt. The equipment and service is excellent. All bridges are in first-class condition.

LAKE SUPERIOR & ISHPEMING RAILWAY.

Inspection made September 14, 1899.

This property is in first-class condition. An important change has been made in the line which will dispense with two large trestle bridges; 802 lineal feet of bridges and culverts filled, involving 386,460 yards of earth; 8½ miles of fencing built; all cars are equipped with air brakes and automatic couplers. Depot facilities are adequate. This company's business is largely an iron ore business, and for the accommodation of this, they have an extensive ore dock at Marquette with a capacity of 36,000 tons. Motive power is first-class.

LEWISTON & SOUTHEASTERN RAILROAD.

Inspection made December 6, 1899.

This is a narrow gauge road and is used exclusively for logging purposes. There are three branches of this road leading to Forest terminus, involving 16 miles of track. The rail is 30 and 35 lb. to the yard; 2,500 ties to the mile; rail, ties and road-bed in fair condition, and equal to the requirements. No bridges, no fences. Highway crossing signs are in good order, also crossing plank. No telephone or telegraph system. Motive power and equipment good. Frogs and switches are not blocked satisfactorily.

MANISTEE & LUTHER RAILROAD.

This is a narrow gauge road built exclusively for logging purposes; 35 lb. steel rail, 2,800 ties to the mile; 4 or 5 miles of fencing; no station buildings; bridges are satisfactory; 14,000 ties have been placed in track this year; alignment and surface of track fair.

Very little attention is paid to the blocking of switches. Telephone system is used for the dispatching of trains.

Respectfully submitted,

JAMES BICE,
Mechanical Engineer.

TAXES AGAINST DEPOT COMPANIES.

The annual reports for the year 1898, of the Fort Street Union Depot Company and the Detroit Union Railroad, Depot & Station Company, as filed with the commissioner of railroads did not give any mileage as operated by these companies. The attention of the companies was called to this fact when the claim was made by them that they did not operate any mileage within the meaning of the tax law, and therefore that their taxes could only be computed at the rate of two and one-half ($2\frac{1}{2}$) per cent, as fixed by the original act, under which they were incorporated.

Taking in consideration the decision rendered by the supreme court, in the case of the Fort Street Union Depot Company against the commissioner of railroads, together with the report of a thorough inspection of the mileage belonging to these companies, which had been made by the department, it was decided that the only basis which could be reasonably used in fixing the rate of taxation against these properties, was the mileage which had been decided upon for the previous year; therefore, this was taken as the basis and the taxes computed accordingly, the Fort Street Union Depot Company being allowed 2.98 miles and the Detroit, Union Railroad, Depot & Station Company .927 miles.

Upon the filing of the computation against these companies with the Auditor General, action was begun by them against the Auditor General to restrain him from the collection of the taxes computed, and to accept in full payment as the amount due from them, two and one-half ($2\frac{1}{2}$) per cent upon their gross income, as fixed by the act under which they were organized.

This case is still pending in the circuit court.

The case of Henry C. Smith against the Lake Shore & Michigan Southern Railway Company was decided by the supreme court of the United States on April 13, in favor of the railroad company and against the position taken by the State. In this case action was brought by Henry C. Smith to compel the Lake Shore & Michigan Southern Railway Company to sell him a mileage book, good for use by himself, his wife and family, as required by the provisions of law in this state. The railway company claimed that, being operated under special charter, they were not required to sell books of this kind, but the state became interested in the case for the purpose of testing the charter of the Lake Shore & Michigan Southern Railway Company and the position taken by them was, that owing to the nature of the contracts and agreements between the Lake Shore & Michigan Southern Railway Company, and some of the lines which were leased and operated by it, they had virtually consolidated with the other companies and had thereby forfeited their rights under the special charter. This position was upheld by the supreme court of this state but was reversed by the Supreme Court of the United States, as stated above.

ARTICLES OF ASSOCIATION FILED DURING THE YEAR 1899.

Port Huron & Lexington Railway, amended articles filed January 17. Proposed extension of line from Lexington, Sanilac county, through Sanilac, Tuscola and Saginaw counties to the city of Saginaw. Length of proposed lines about ninety miles.

Mineral Range Railroad Company, amended articles filed February 20. Proposed extension of line from Copper Harbor, Keweenaw county to a point on the Ontonagon river in Ontonagon county, through the counties of Houghton, Baraga, Keweenaw and Ontonagon. The length of proposed line about one hundred miles.

Northern Michigan Railroad Company, amended articles filed February 20, changing the name of the company to the Copper Range Railroad Company. Capital stock \$5,000,000. Proposed line in Houghton, Gogebic and Ontonagon counties. Length of proposed line about ninety miles.

Columbus, Marshall & Northeastern Railroad Company, articles filed February 28. Capital stock \$1,200,000. Proposed line from Marshall, Calhoun county, through the counties of Calhoun, Eaton, Ionia, Clinton, Montcalm, Gratiot, Midland and Bay, to Bay City. Length of proposed line about one hundred and forty miles.

Pleasant Bay Railway Company, amended articles filed April 14, changing the name of the company to the Detroit & Toledo Shore Line Railroad Company. The proposed line is from Vienna, Monroe county, running parallel with the line of the Michigan Central Railroad Company through the counties of Monroe and Wayne to the city of Detroit, and extending this line south from Vienna to the city of Toledo. Capital stock increased to \$1,500,000.

Hancock & Calumet Railroad Company, amended articles filed June 3. Proposed extension of line from a point in Franklin township, Houghton county, across Portage Lake, between Houghton and Hancock, to the village of Lake Linden, also reaching the mines of the Osceola Consolidated Mining Company, the Tamarack Mining Company and the Allouez Mining Company, to some point on Lake Superior, in Keweenaw county. Length of proposed extension about 50 miles.

Menominee & St. Paul Railway Company, articles filed June 14. Capital stock \$500,000. Proposed line in Menominee county. Length of proposed line about ten miles.

Detroit River Terminal Railroad Company, articles filed July 7. Capital stock \$500,000. Proposed line from the city of Detroit to Slocum Junction, Monguagon Township, Wayne county. Length of proposed line about sixteen miles.

St. Joseph, South Bend & Southern Railroad Company, articles filed August 12. Capital stock \$750,000. This company was incorporated for the purpose of purchasing the line of the Indiana & Lake Michigan Railway Company. The total length of which is 39.58 miles.

The Pere Marquette Railroad Company, articles filed September 21. Capital stock, \$1,400,000. Proposed line from Pentwater, Oceana county, to Manistee, Manistee county. Length of proposed line about thirty-five miles.

Pere Marquette Railroad Company, amended articles filed November 1, providing that any other railroad company organized under the laws of this State may be permitted to assume the name of the Pere Marquette Railroad Company.

The Pere Marquette Railroad Company filed articles Nov. 1. Capital stock \$28,000,000. The object of this corporation is to purchase the lines belonging to the Flint & Pere Marquette Railroad Company, the Detroit, Grand Rapids & Western Railroad Company and the Chicago & West Michigan Railway Company. Entire amount of the mileage which it is proposed to purchase being 1,650 miles.

BOARD OF RAILROAD CROSSINGS.

Maps approved during the year 1899.

March 7. Mineral Range Railroad Company. Extension of line in Houghton county. Map approved with over-head crossings of the Hancock & Calumet Railroad Company's tracks and the tracks of the Quincy and Torch Lake Railroad Company.

March 21. Manistique & Northwestern Railway Company. Route of line in Schoolcraft county.

March 21. Grand Rapids, Kalkaska & Southeastern Railroad Company. Extension of line in the village of Kalkaska.

March 30. Wisconsin, Michigan & Northern Railway Company. Extension of line in Menominee and Dickinson counties. Map approved with over-head crossings of Minneapolis, St. Paul & Sault Ste. Marie Railway at Faithorn Junction and the Curry Mine Branch of the Chicago & Northwestern Railway, and under grade crossings of the Chicago & Northwestern Railway at Sturgeon River and at Briar Hill. All other crossings to be protected by first class interlockers.

April 8. Detroit & Mackinac Railway Company. Extensions of line in Bay and Cheboygan counties.

May 22. Grand Rapids, Belding & Saginaw Railroad Company. Proposed line in Kent and Ionia counties.

June 9. Detroit & Toledo Shore Line Railroad Company. Proposed line in Monroe county, extending to Trenton in Wayne county.

July 11. Menominee & St. Paul Railway Company. Proposed line in the city of Menominee.

Aug. 22. Columbus, Marshall & Northeastern Railroad Company. Proposed line in Calhoun and Eaton counties.

Aug. 24. Detroit, Utica & Romeo Railway Company. Proposed line in Wayne and Macomb counties.

Maps approved with crossings of the Michigan Central Railroad in Warren township, and the Chicago & Grand Trunk Railway in Washington township to be over-head. Other crossings of the same line to be protected by interlockers.

Sept. 15. Manistee & Northeastern Railroad Company. Proposed line in Manistee and Benzie counties, with crossings of the Chicago & West Michigan and Arcadia & Betsey River Railway, to be protected by interlockers.

Oct. 24. Copper Range Railroad Company. Proposed line in Houghton and Ontonagon counties. Crossing of the Atlantic & Lake Superior Railway, to be protected by first class interlocker.

COMPLAINTS AND PETITIONS:

CROSSING PROTECTION.

Jan. 2. Complaint was received from Fred P. George, Hudson, Michigan, claiming that the alarm bell located at the Main street crossing of

the Cincinnati Northern Railroad, in that city, was not satisfactory; that trains were run over the crossing at an excessive rate of speed and that flying switches were frequently made at the crossing which was a source of very serious danger.

An inspection of the location of this crossing was made by representatives of the department and an arrangement was made with the general superintendent of the railroad company whereby an order was issued prohibiting the practice of making flying switches and reducing the rate of speed of all trains at this point to six miles per hour, and, upon the issuance of the orders by the general superintendent of the railroad company, this matter was considered closed.

Jan. 3. Complaint was received from Alderman J. Kreger of Wyandotte, Michigan, claiming that the Eureka Avenue and Vine Street crossings of the Detroit & Lima Northern Railway Company in that city, were in dangerous condition, not being constructed in accordance with the requirements of law.

An inspection of the location of these crossings was made and an order was issued, requiring the Detroit & Lima Northern Railway Company to reconstruct the crossings at Eureka Avenue and Vine Street, and to also construct and maintain safety gates at the Oak Street crossing.

Jan. 14. A resolution which had been adopted by the Common Council of the city of Battle Creek was received, asking for safety gates at the East Canal street crossing of the Michigan Central Railroad in said city of Battle Creek.

After an inspection of this crossing an order was issued requiring the Michigan Central Railroad Company to station a flagman at the crossing.

Jan. 14. An inspection was made of the B. street crossing of the Michigan Central Railroad in the city of Mason, as requested by a petition which had been received on December 6, 1898, and an electric alarm bell was ordered at this crossing, which order has been complied with.

Jan. 20. A petition was received from citizens of Sturgis, asking that the railroad crossings in that city be inspected and the necessary protection ordered at the same.

An inspection of the crossings was made by representatives of the department, and orders were issued requiring the Lake Shore & Michigan Southern Railway Company and the Grand Rapids & Indiana Railway Company to station and maintain a flagman at the West street crossing and an automatic, electric alarm bell at the Nottaway street crossing of their lines, in the city of Sturgis, which orders have been complied with.

Jan. 27. Petition was received from a large number of citizens of the village of Francisco, asking that a flagman be stationed at the main highway crossing of the Michigan Central Railroad in said village of Francisco.

An inspection of this crossing was made by representatives of the department and an order was issued requiring the railroad company to construct and maintain an automatic, electric alarm bell at the crossing. A notice has been received that the order has been complied with.

Feb. 15. Application was received from E. L. Langworthy, president of the village of Linden, asking that protection be furnished at the crossing of the Detroit, Grand Haven & Milwaukee Railway, in said village.

An inspection of this crossing was made by representatives of this department and an order was issued, requiring the Detroit, Grand Haven

& Milwaukee Railway Company to station and maintain an automatic, electric alarm bell at the crossing of its tracks near the depot in Linden.

Feb. 20. The attention of the department was called to the second highway crossing west of Kinney Station, on the Muskegon, Grand Rapids & Indiana Railroad.

An inspection of this crossing was made by representatives of this department and an order was issued requiring the Muskegon, Grand Rapids & Indiana Railroad Company to maintain an automatic, electric alarm bell at this crossing.

Mar. 10. A resolution which had been adopted by the common council of the city of Battle Creek was presented, asking that orders be issued prohibiting the watchman on Marshall street, in Battle Creek, from leaving his crossing for the purpose of attending to the switches near that point.

This matter was taken up with the railroad company and it was agreed that as soon as the weather would permit, the switches should be moved so as to remove the necessity for the watchman leaving the crossing.

April 10. Complaint was received from W. I. E. Wheeler of Pulaska, Michigan, claiming that the crossing of the Cincinnati Northern Railroad at Wheelerton station was dangerous, and that some protection was required at said crossing.

An inspection of the location of this crossing was made and an order was issued for the installation of an electric alarm bell, which order has been complied with.

April 20. Petition was received from the common council of the city of Detroit, asking that safety gates be ordered at 14th avenue crossing of the Michigan Central, Lake Shore & Michigan Southern and Grand Trunk Railroads.

An inspection of the location of these crossings was made by representatives of this department and an order was issued requiring the railroad companies to construct and maintain safety gates, which order was promptly complied with.

April 25. Petition was received from citizens of Millington, Michigan, claiming that the Main street crossing of the Michigan Central Railroad in that village was dangerous and required protection.

An inspection of this crossing was made by representatives of the department and it appearing that the principal cause for complaint on the part of the people there was that the railroad company failed to give the necessary whistle signals at the crossing, an arrangement was made with the railroad company whereby the signals should be properly given, and no further protection was considered to be necessary.

April 27. A communication was received from Fred P. Baker, city clerk of Flint, Michigan, calling attention to the fact that five aldermen and five citizens had been appointed as a special committee to call the attention of the commissioner of railroads to certain crossings in the city of Flint, at which protection was necessary.

An inspection of the crossings was made by representatives of this department and orders were issued requiring the Grand Trunk Railway Company to station a flagman at the Richfield Road crossing of their line, and for the construction of gates at Kersley street and Grand Traverse street crossings of the Flint & Pere Marquette Railroad.

Notice has been received that these orders have been complied with.

May 8. Complaint was received from Honorable Willard Stearns, mayor of the city of Adrian, asking that a flagman be stationed at the Seeleye street crossing of the Detroit & Lima Northern Railway in said city.

After an inspection of the location of this crossing had been made by representatives of this department, an order was issued requiring the Detroit & Lima Northern Railway to station a flagman at the Seeleye street crossing of their tracks in said city of Adrian.

May 11. Complaint was received from citizens of the village of Brown City, complaining of the dangerous condition of the Main street crossing of the Flint & Pere Marquette Railroad in said village.

An inspection of this crossing was made by representatives of this department and an order issued requiring the Flint & Pere Marquette Railroad Company to install and maintain in automatic, electric alarm bell at the crossing, which order has been complied with.

May 17. Complaint was received from James C. Mustard, city clerk of the city of Ludington, Michigan, asking for protection at several street crossings of the Flint & Pere Marquette Railroad in that city.

After an inspection of the crossings had been made by representatives of this department, an order was issued requiring the flagman at Washington street crossing to remain on duty from 6:30 o'clock a. m. until 9 o'clock p. m., each day of the week, Sundays excepted, and at the James street crossing the company was required to reconstruct the crossing so as to make it twenty-four feet in width, as required by law, which orders have been complied with.

May 24. Complaint was received from Honorable Samuel C. Goodyear, calling attention to the dangerous condition of the crossing at Mill street in Swartz Creek, and at Miller Road, near Otterburn, over the tracks of the Chicago & Grand Trunk Railway.

At the Mill street crossing in Swartz Creek an alarm bell was stationed, and to further protect the crossing it was ordered that the agent at that station should flag all fast trains over the crossing; and at Miller Road crossing an order was issued requiring the railroad company to station and maintain an automatic electric alarm bell, and also requiring the agent to flag all fast trains over the crossing.

May 24. Complaint was received from John W. Dunlop, Clare, Michigan, calling attention to the dangerous condition of a highway crossing at the south city limits of the city of Clare, over the tracks of the Ann Arbor Railroad Company.

An inspection of this crossing was made by representatives of the department and an order was issued requiring the Ann Arbor Railroad Company to reconstruct the crossing so as to comply with the law.

June 1. Complaint was received from the common council of the city of Detroit, asking for additional protection at the Forest avenue crossing of the Grand Trunk Railway and the Lake Shore and Michigan Southern Railway.

An inspection of the location of this crossing was made by representatives of this department and an order was issued requiring the railroad companies to construct and maintain safety gates at the crossing.

June 5. Complaint was received from George R. Perry, mayor of the city of Grand Rapids, asking for additional protection at the Madison

avenue crossing of the Detroit, Grand Rapids & Western Railroad in that city.

An inspection of the location of this crossing was made by representatives of this department and an order was issued requiring the Detroit, Grand Rapids & Western Railroad Company to station a flagman at the Madison avenue crossing of their tracks in the city of Grand Rapids, which order was promptly complied with.

June 23. Complaint was received from Charles H. Bostick, village president, Manton, Michigan, calling attention to the fact that trains on the Grand Rapids & Indiana Railway passed through that village at an excessive rate of speed, and that protection was not furnished at any of the street crossings.

After an inspection of the location of these crossings had been made, an order was issued requiring the Grand Rapids & Indiana Railway Company to construct an automatic, electric alarm bell at the Main street crossing of their tracks in the village of Manton.

June 24. Complaint was received from David E. Uhl, of the city of Grand Rapids, calling attention to the dangerous condition of the Hall street crossing of the Detroit, Grand Rapids & Western Railroad in that city.

An inspection of this crossing was made by representatives of the department and an order was issued requiring the Detroit, Grand Rapids & Western Railroad Company to station a flagman at this crossing, which order has been complied with.

June 30. Complaint was received from the common council of the city of Detroit, calling attention to the alleged dangerous condition of the Campbell avenue crossing of the tracks of the Union Terminal Association in the city of Detroit.

After an inspection of the location of this crossing had been made by representatives of the department, an order was issued requiring the Union Terminal Association to construct an alarm bell at the crossing, to be operated by the flagmen on Military and Junction avenues.

July 5. The attention of the department was called to the fact that the safety gates at the Washington avenue crossing of the Chicago & Grand Trunk Railway, in the city of Lansing, were out of repair and that they were not constructed so as to protect all the railroad crossings at that point.

The attention of the Chicago & Grand Trunk Railway Company was called to these gates and without any formal order being issued, the necessary work of reconstruction and repair was done.

July 5. The attention of the department was called to the fact that at the West Fulton street crossing of the Lake Shore & Michigan Southern Railway, in the city of Grand Rapids, the watchman went off duty at 6:20 o'clock p. m., although a number of regular trains were scheduled to pass the crossing after that time.

The attention of the railroad company was called to the situation and an order was issued requiring the watchman at this place to remain on duty until 7 o'clock p. m.

July 15. Complaint was received from F. B. LeValley, village president, Vassar, Michigan, asking for protection at the crossing of the Michigan Central Railroad Company's tracks in the village of Vassar.

After an inspection of the location of this crossing had been made by representatives of the department, it was decided that the crossing was a reasonably safe one and the request was therefore denied.

July 15. Petition was received from the common council of the village of Scottville, asking for protection at the Main street crossing of the Flint & Pere Marquette Railroad in said village of Scottville.

After an inspection of the location of this crossing had been made an order was issued requiring the Flint & Pere Marquette Railroad Company to station and maintain an automatic, electric alarm bell at the crossing.

July 24. Complaint was received from Frank McKenzie of Concord, Michigan, calling attention to the dangerous condition of the Main street crossing of the Michigan Central Railroad in the village of Concord.

An inspection of the location of this crossing was made and an order was issued requiring the Michigan Central Railroad Company to construct and maintain an automatic electric alarm bell at the crossing.

July 25. Complaint was received from E. S. Carpenter and others, calling attention to the dangerous condition of a highway crossing about one mile southeast of the village of Sparta, over the tracks of the Chicago & West Michigan Railway.

An inspection of the location of this crossing was made and arrangements were made with the railroad company to grade the highway approaches on both sides of their right of way so as to remove the cause of danger, which protection was considered to be ample.

July 25. Petition was received from the common council of the city of Battle Creek, asking that an inspection be made of proposed crossings over the tracks of the Chicago & Grand Trunk Railway at Forest street and Colvin avenue in the city of Battle Creek.

An inspection of these crossings was made by representatives of the department and it was found that the right of way for the crossings had not been procured and that the matter was not within the jurisdiction of the department. Therefore no action was taken.

Aug. 2. Complaint was received from the common council of the city of Detroit, asking that safety gates be ordered at the Sherman street crossing and Maple street crossing of the Detroit, Grand Haven & Milwaukee Railway in the city of Detroit.

After an inspection of the location of these crossings had been made, it was decided that the protection furnished by the watchman stationed at the crossings, at the present time, was ample for the requirements, therefore the prayer of the petition was denied.

Aug. 7. Complaint was received from George A. Bailey, chairman of the street committee, Richmond, Michigan, asking for protection at the Main street crossing of the Chicago & Grand Trunk Railway in said village.

After an inspection of the location of this crossing had been made by representatives of the department, an arrangement was made with the railroad company to stop two of their regular trains at the station of Richmond, and to require all other trains to run over the crossing at a speed not exceeding six miles per hour, which arrangement was satisfactory to the people of the village.

Aug. 29. The attention of the department was called to the dangerous condition of the Hudson crossing of the Detroit, Grand Rapids & Western Railroad near Lyons.

Inspection of the location of this crossing was made and an order was issued for an automatic electric alarm bell at the crossing.

Sept. 4. Petition was received from the common council of the village of Central Lake, asking for protection at the street crossings of the tracks of the Chicago & West Michigan Railway in that village.

After an inspection of the location of these crossings had been made an order was issued requiring the Chicago & West Michigan Railway Company to station and maintain an electric alarm bell for the protection of Maple and State streets, and also to reduce the speed of all fast trains through that village to a rate of speed not exceeding twenty miles per hour.

Sept. 7. Complaint was received from the common council of the city of Muskegon, calling attention to the dangerous condition of the Beidler street crossing of the Muskegon, Grand Rapids & Indiana Railroad and the Toledo, Saginaw & Muskegon Railway in said city of Muskegon.

An inspection of this crossing was made by representatives of the department and an order was issued requiring the railroad companies to construct and maintain safety gates at this crossing.

Sept. 18. Petition was received from residents of the village of Quincy, asking for protection at the Main street crossing of the Lake Shore & Michigan Southern Railway, in that village.

An inspection of the location of this crossing was made by representatives of the department and an order was issued requiring the Lake Shore & Michigan Southern Railway Company to station and maintain a flagman there.

Sept. 19. Complaint was received from J. W. Spaulding, commissioner of Highways of Bellevue, Michigan, calling attention to the dangerous condition of the Battle Creek county road crossing of the Chicago & Grand Trunk Railway, at that place.

An inspection of the location of this crossing was made and an order was issued requiring the Chicago & Grand Trunk Railway Company to station and maintain an electric alarm bell at the crossing.

Sept. 22. Communication was received from L. N. Burke, city attorney of Kalamazoo, calling attention to the condition of a number of railroad crossings in that city.

After an inspection of the crossings referred to, an order was issued compelling the Michigan Central Railroad Company to station and maintain a flagman at the Cooley street crossing of its line, and orders were also issued requiring the Lake Shore & Michigan Southern Railway Company to station and maintain a flagman at the Porter street crossing of its line and to install an electric alarm bell at the Grace street crossing of the same line.

Oct. 14. Complaint was received from Hon. Edward R. Loud, mayor of the city of Albion, calling attention to the condition of the Main street crossing of the Lake Shore & Michigan Southern Railway at that place, asking that gates or a flagman be maintained there for the protection of said crossing.

An inspection of this crossing was made by a representative of the department and it was found that for some time the crossing had been protected by employes of the company flagging all trains over the same. Upon the attention of the officials of the railroad company being called to the fact that there was no regular system for this flagging, but that it

was done by a number of different persons, making it probable that in a good many cases the work would be neglected, it was arranged that all work should be done by the station agent, which arrangement was perfectly satisfactory to the officials of the city.

Nov. 2. The attention of the department was called to the Gratiot avenue crossing of the Michigan Central Belt Line, in the city of Detroit, where a collision occurred between a train on the Michigan Central Railroad and an electric car on the Rapid Railway.

After a careful consideration of the conditions surrounding this crossing, an inspection was made by representatives of the department and it was decided that, as compared with the average grade crossings of the State, the protection there was reasonably adequate, safety gates being in operation from six o'clock in the morning until ten at night, and there being very few train movements during the night.

Nov. 2. Copy of a resolution which had been adopted by the common council of the city of Grand Rapids was received, calling attention to the Godfrey avenue crossing of the Chicago & West Michigan Railway, in that city.

After an inspection had been made by the department, an order was issued requiring the railroad company to station and maintain a flagman at this crossing.

Nov. 8. Communication was received from the common council of the village of Delray, complaining of the dangerous condition of the West End avenue crossing of the Michigan Central Railroad in that village.

After an inspection of the premises had been made by representatives of the department, an order was issued requiring the Michigan Central Railroad Company to station and maintain a flagman at the crossing.

Nov. 24. Petition was received from a number of citizens of the village of Holloway, complaining of the dangerous condition of the main highway crossing of the Wabash Railroad at that place.

An inspection of the location of this crossing was made by a representative of the department and an order was issued requiring the Wabash Railroad Company to flag all trains over the crossing which do not stop at Holloway.

Dec. 2. Complaint was received from H. L. Bayham, of Carson City, calling attention to the condition of the Mercantile street crossing of the Toledo, Saginaw & Muskegon Railway, at that place.

After an inspection by the department an order was issued requiring the railroad company to station a flagman at this crossing at all times while switching is being done, on the south side switching track there.

Dec. 13. Petition was received from a large number of citizens of the city of Adrian, calling attention to the alleged dangerous condition of what is known as Bent Oak avenue crossing of the Detroit & Lima Northern Railway, at that place.

An inspection of the location of this crossing was made by representatives of the department, and it was found to be protected by an automatic electric alarm bell, which, it was claimed by the citizens, was not working satisfactorily.

Some slight changes were recommended in the location of the appliance for starting the operation of the bell and it was decided to give it a further trial before ordering any additional protection.

HIGHWAY CROSSINGS.

January 6. Communication was received from Mr. James Hennessey, requesting plans and specifications for the construction of a highway crossing over the tracks of the Minneapolis, St. Paul & Sault Ste. Marie Railway, near Garden, Delta county.

Mr. Hennessey was promptly advised by the department of the necessary course of procedure in order to procure the plans and specifications, but no evidence appearing that the right of way had been regularly secured, the order was not issued.

February 17. Communication was received from Mr. George W. Gorham of Cascade, Kent county, asking that an order be issued for highway crossing in said township of Cascade.

A personal inspection was made of the location of the proposed crossing and it was found that the location proposed was a particularly dangerous one, and seriously objected to by the railroad company, on account of being dangerous. Therefore the request for the crossing at this point was denied, as it appeared that there was no particular necessity for the same.

March 4. Application was received for plans and specifications for a highway crossing over the Arcadia & Betsey River Railway near Arcadia.

This application, being accompanied by a record of the proceedings in securing the right of way, together with a receipt from the railroad company for such right of way, an order, with plans and specifications attached, was issued, for the construction of the crossing, and report has been received that the same has been completed.

April 6. A request was received from Mr. Joseph Water, of West Branch, Michigan, asking that an inspection be made of the proposed highway crossing over the tracks of the Michigan Central Railroad at his place, but it appearing that the highway had not been regularly laid out, and that no steps had been taken towards securing the right of way, it was decided that the department had no jurisdiction and no action was taken.

April 18. Application was received from James Maher, of Gibson township, Bay county, asking for an order for two highway crossings over the tracks of the Michigan Central Railroad Company in said township of Gibson.

After having been furnished with information that these highways had been regularly laid out and the right of way across the railroad company's property secured, orders were issued for the same.

April 25. Application was received from Calvin Shoffner, of Tallman, for plans and specifications for a highway crossing over the Flint & Pere Marquette Railroad Company's line in the township of Branch, Mason county. All the proceedings in this case appearing to be according to law, an order for the crossing, with the necessary plans and specifications attached, was issued, which order has been complied with.

June 10. Application was received from Joseph Allair, of Cheboygan, asking for the approval of highway crossing over the tracks of the Michigan Central Railroad in Beaugrand township, Cheboygan county. Satisfactory evidence having been furnished that the proceedings in this case

were perfectly regular, as required by law, an order for the construction of this crossing was issued.

June 22. Communication was received from John M. Arnold, of Monitor, asking for the approval of highway crossing over the tracks of the Michigan Central Railroad in Monitor township, Bay county.

Evidence having been produced that the right of way for this crossing had been regularly procured, an order was issued.

June 26. Communication was received from Mr. Gerrit Groenenoud of Crisp, asking for the approval of highway crossing in the township of Olive, Ottawa county, and it appearing that the right of way had not been regularly procured for the highway, he was advised of the necessary course of procedure in order to procure the same, and no action has been taken.

June 30. Application was received from E. A. Holmes, of Bachelor, Michigan, asking for the approval of highway crossing over the tracks of the Flint & Pere Marquette Railroad near Bachelor.

All the proceedings in this case appearing to be regular, the order was promptly issued.

July 14. Communication was received from E. W. Meddaugh, general solicitor of the Grand Trunk Railway Company, asking for the approval of plans and specifications which had been agreed upon between that company and the township officers of Mussey township, St. Clair county.

After a careful examination of the plans and specifications as submitted, the same were approved and the crossing was constructed without any formal order being issued by the department.

September 20. A communication was received from W. D. Green, of Bear Lake, calling the attention of the department to certain highway crossings near Springdale station, on the Arcadia & Betsey River Railway, and alleging that the same were in an unsafe condition.

This matter was taken up by correspondence with the railway company and the necessary repairs upon the crossings were promptly made to the entire satisfaction of the complainant.

October 2. Communication was received from David Beard of Ruby, St. Clair county, asking for instructions as to the regular course of procedure necessary in order to procure a highway crossing at his place. He was advised of the requirements of the statute and nothing further has been heard from him.

October 12. Application for the approval of a highway crossing in Spaulding township, Menominee county, was received from Mr. Frank Loeffler of DeLoughary.

No evidence having been produced showing that the right of way had been regularly procured, Mr. Loeffler was advised of the course which it would be necessary for him to pursue before an order could be issued, and later the right of way for this crossing having been regularly procured, an order for the same, with plans and specifications attached, was issued.

October 30. Communication was received from Mr. John Conley, supervisor of Elba township, Lapeer county, regarding a highway crossing over the tracks of the Chicago & Grand Trunk Railway, three and one-half miles west of Lapeer.

It appearing from the records of the office that this is a crossing about which there has been considerable correspondence in the past and from

the claims of the officials of the Chicago & Grand Trunk Railway Company, being a particularly dangerous one, it was decided before issuing the order to make a personal investigation of the location of the crossing, and the case is still pending.

November 23. Application was received from Mr. James Cluley, highway commissioner of Calkinsville, Michigan, asking for an order with plans and specifications for the construction of a highway crossing over the tracks of the Flint & Pere Marquette Railroad Company, in Denver township, Isabella county.

Evidence having been produced that the right of way had been regularly secured, the order, with plans and specifications, was issued as requested.

November 28. Request was received from Mr. F. E. Rice, commissioner of highways, Millington, Tuscola county, asking for an order for the construction of a highway crossing over the tracks of the Bay City Division of the Michigan Central Railroad at that place.

The proceedings with reference to procuring the necessary right of way appearing to be in accordance with the requirements of the statute, the necessary order was issued.

FENCE COMPLAINTS.

Feb. 1. Communication was received from Mr. George A. Meyers of Kalkaska, together with a petition from a number of residents along the line of the Grand Rapids, Kalkaska & Southeastern Railroad Company, asking that said company be required to construct right of way fences along their line.

This matter was taken up promptly with the officials of the railroad company, an inspection of the line was made, and an agreement made with the railroad company whereby the necessary fences were to be constructed without any order being issued by the department.

April 20. Sworn complaint was received from Mr. J. B. Cunningham, of Boyne City, alleging that the Boyne City & Southeastern Railroad Company had failed to construct the necessary legal fences along their line at his place.

After an investigation of this matter the complaint of Mr. Cunningham was found to be well founded and an order was issued for the construction of the fence, which order has been complied with.

April 20. Complaint was received from Mrs. L. Van Wormer, of Milan, regarding the condition of fences along the line of the Wabash Railroad at her place.

This matter was taken up by correspondence with the railroad company, but before the construction of the fences was begun, information was received to the effect that the land in question had been rented to parties who desired to use the same for loading ground, and the request for the fences was therefore withdrawn.

May 4. Complaint was received from C. V. Paul of Dundee, regarding the failure of the Detroit & Lima Northern Railway Company to build the necessary fences along their line.

This matter was taken up with the railway company and it was found that on account of this road being in the hands of a receiver, it would be necessary for them to receive an order from the court before they could

expend the necessary amount of money for the construction of the fences. After some slight delay the order was issued and the fences along their line constructed, as required by law.

May 12. Complaint was received from John Pierson of Somerset Center, on account of the failure of the Detroit, Toledo & Milwaukee Railroad Company to build the necessary fences along their line.

This matter was taken up with the railroad company and arrangements made for the immediate construction of the fences, without the necessity of any formal order being issued by the department.

May 17. Complaint was received from A. D. Mackam, of Holloway, and several other residents along the line of the Wabash Railroad, regarding the condition of the fences along said railroad between Holloway and Britton.

An inspection of the line of this road was made by a representative of this department and upon the attention of the railroad company being called to the condition of the fences, orders were given for the necessary repairs to be made immediately.

May 18. Complaint was received from Mr. Ellen McDougall, of Alpena, claiming that the Detroit & Mackinac Railway Company had failed to construct the necessary legal fences along their line at her place.

This matter was taken up by correspondence with the railroad company and the fences were built.

May 23. Complaint was received from W. J. McGregor, of Jerome, on account of the condition of the fences along the line of the Detroit, Toledo & Milwaukee Railroad at his place.

This matter was taken up with the railroad company and the necessary fences were constructed, satisfactory to the complainant.

May 25. Complaint was received from James D. Platt of Buchanan, alleging that the Milwaukee, Benton Harbor & Columbus Railway Company had failed to construct the necessary right of way fences along their line.

After an investigation of this complaint an order was issued requiring the railroad company to build the fences.

May 25. Complaints were received from a number of residents along the line of the Milwaukee, Benton Harbor & Columbus Railway in Berrien county, on account of the failure of that railroad company to construct the necessary right of way fences along their line. Orders were issued requiring the company to comply with the requirements of the law. A personal investigation was made of the location of the line and a communication was received from the railroad company advising the department that the necessary work would be promptly done, as soon as the material could be procured.

May 27. Complaint was received from Carrie B. McNitt, of Cadillac, Michigan, on account of the condition of the fences along the line of the Grand Rapids & Indiana Railway at her place.

This matter was taken up with the railroad company and the necessary fences were promptly constructed.

May 29. Complaint was received from Perley F. Becker of Verne, regarding the condition of the fences along the line of the Verne Coal Spur track of the Grand Trunk Railway.

This matter was called to the attention of the officials of the Chicago & Grand Trunk Railway Company, an inspection of the line was made

by a representative of the department and an arrangement made with the railway company for the immediate construction of the fences to the satisfaction of the complainant.

May 30. Complaint was received from Mr. Michael E. Kenny of Copemish, regarding the condition of fences along the line of the Bear Lake & Eastern Railroad near Copemish.

This matter was taken up by correspondence with the officials of the railroad company and the fences were constructed without the necessity of any formal order being issued.

June 1. Complaint was received from Mr. A. D. Thompson of Howell, asking that the Ann Arbor Railroad Company be required to reconstruct fences along their line at his place near Howell.

This matter was taken up with the railroad company and orders were given for the necessary repairs upon the fences which were attended to promptly.

June 13. Complaint was received from Willis Hallock of South Haven, on account of the condition of the fences along the line of the South Haven & Eastern Railroad Company.

The attention of the railroad company was called to this complaint and orders were promptly issued by the proper officers of the company for the necessary repairs upon the fences.

June 26. Complaint was received from Minor Peck of Glennie, Alcona county, regarding the condition of right of way fences along the line of the Au Sable & Northwestern Railroad at his place.

This matter was taken up with the railroad company and orders were promptly issued for the construction of the fences to the satisfaction of the complainant.

July 19. Complaint was received from Clarence E. Branch of Watervliet, calling attention to the condition of fences along the line of the Chicago & West Michigan Railway through the property of J. W. Read, near Watervliet.

The attention of the railroad company was called to this complaint and, although it appeared that this was in the nature of a private claim for damages, on account of the destruction of certain fences by a fire which was alleged to have been set from engines on the railroad, upon the attention of the railroad company being called to the case, a settlement was promptly made.

July 20. Sworn complaint was received from Thomas L. Lamoreaux of Howell, on account of the condition of fences along the line of the Ann Arbor Railroad at his place, and after an investigation of this complaint an order was issued requiring the Ann Arbor Railroad Company to reconstruct its fences within ten days from date, which order was promptly complied with.

July 22. Complaint was received from H. E. Leaper of Hermansville, alleging that the Minneapolis, St. Paul & Sault Ste. Marie Railway Company had failed to build the necessary right of way fences at his place.

Upon the attention of the railroad company being called to this complaint the fences were immediately constructed.

July 23. Complaint was received from Antoine LeBlanc, on account of the condition of the fences, crossings and cattle guards along the line of the Detroit & Lima Northern Railway in Ecorse township, Wayne county.

This matter was promptly taken up with the railroad company, an inspection was made of the location of the line and arrangements were made for the prompt construction of the necessary fences.

July 27. Complaint was received from Ephraim Follette of Sheridan, claiming that the Detroit, Grand Rapids & Western Railroad Company had not built the necessary right of way fences at his place, as required by law.

A personal inspection was made of the location of this line and it appearing that the property in question was located within what the Detroit, Grand Rapids & Western Railroad Company claimed to be their yard limits, the request for an order at this place was denied.

July 29. Complaint was received from Joel Bragg of Deerfield, alleging that the Lake Shore & Michigan Southern Railway Company had refused to build the necessary fences along their line at his place. Upon the attention of the railroad company being called to this complaint, his request for the construction of fences was promptly complied with.

Aug. 4. Complaint was received from Mrs. Rose Johnson of Oak Grove, on account of the condition of right of way fences along the line of the Ann Arbor Railroad Company at her place.

This matter was taken up with the officials of the Ann Arbor Railroad Company and arrangements were immediately made for the construction of the fences, as requested.

Aug. 12. Complaint was received from J. N. Curtis of Vandalia, on account of the condition of certain fences and an under grade cattle pass at his place on the line of the Michigan Central Railroad.

This matter was taken up with the railroad company and an inspection of the location was made by representatives of the department, and without the issuance of any formal order the fences were repaired and the cattle pass put in a satisfactory condition.

Aug. 15. Complaint was received from Henry F. Cimmerer of Clare, on account of the condition of certain fences along the line of the Ann Arbor Railroad near Clare.

This matter was taken up by correspondence with the railroad company and arranged to the satisfaction of the complainant.

Aug. 28. Sworn complaint was received from John W. Dunlop, of Clare, alleging that the Flint & Pere Marquette Railroad Company had failed to construct the necessary legal fences along the line of their right away at his place.

After an investigation of this matter an order was issued requiring the Flint & Pere Marquette Railroad Company to construct the necessary fences, which order was promptly complied with.

Aug. 29. Complaint was received from Thomas H. Fulcher of Milan, in regard to the condition of fences along the Wabash Railroad at his place.

This matter was called to the attention of the officials of the railroad company and was immediately adjusted.

Aug. 29. Sworn complaints were received from Elijah J. Goodell and four other citizens of Ecorse township, Wayne county, on account of the failure of the Detroit & Lima Northern Railway Company to construct the necessary right of way fences along their line. Formal orders were issued requiring the Detroit & Lima Northern Railway to build these fences within ten days from date, which orders were promptly complied with.

Sept. 1. Complaint was received from Rufus L. Van Patten, on account of the condition of the fences along the line of the Milwaukee, Benton Harbor & Columbus Railway at his place.

This matter was called to the attention of the railway company and it was agreed that the fences should be built immediately.

Sept. 14. Complaint was received from W. C. Busch, of Gladwin, on account of the failure of the Michigan Central Railroad Company to construct the necessary legal fences along the line of their Gladwin Branch, which matter was called to the attention of the Michigan Central Railroad Company, without any formal order being issued. It was agreed that this entire branch should be fenced as soon as possible.

Oct. 11. Complaint was received from Samuel H. Koon of Morenci, on account of the condition of fences along the line of the Wabash Railroad at his place.

Upon the attention of the railroad company being called to this complaint, orders were promptly issued by the proper officials for the reconstruction of the fences.

Oct. 19. Complaint was received from Horace Adams of Niles, asking that the Cleveland, Cincinnati, Chicago & St. Louis Railway Company be required to construct a board fence along the line of their road at his place.

After an investigation of this complaint it was decided that the standard fence in use by this company complied in every respect with the requirements of the law, and the request for an order requiring the company to build a board fence was denied.

Oct. 19. Complaint was received from Fred A. Thatcher, of Grand Haven, on account of the failure of the Toledo, Saginaw & Muskegon Railway Company to build the necessary legal fences along their line.

This matter was called to the attention of the officials of the railway company and is still pending.

Nov. 3. Complaint was received from W. S. Hutchinson, of the Agricultural College, alleging that the Detroit, Grand Rapids & Western Railroad Company had failed to build the necessary fences along their spur track at his place.

This matter was called to the attention of the railroad company and notice was received that orders had been issued for the immediate building of the fences, as required.

Nov. 3. Communication was received from Mr. Hugh Ross of Remus, complaining in regard to the condition of the fences along the line of the Detroit, Grand Rapids & Western Railroad Company at his place.

This matter was taken up with the officers of the railroad company and orders were promptly issued by them for the construction of the fence, so as to comply with the requirements of the statute.

Nov. 13. Complaint was received from Mr. Richard McWilliams, of Ottawa county, calling attention to the fact that the right of way fence along the line of the Toledo, Saginaw & Muskegon Railway, adjacent to his premises, had not been constructed as required by law.

This matter was taken up with the railroad company and notice was received that the fences would be constructed immediately.

Nov. 22. Complaint was received from Mr. Silas Clark of Galien, Michigan, calling attention to the condition of the fences along the line of the St. Joseph, South Bend & Southern Railroad, at his place.

This matter was taken up promptly by correspondence, with the railroad company and a communication was received from the superintendent of the road stating that the necessary fences would be constructed immediately, without the necessity of any order being issued by the department.

Nov. 28. Complaint was received from Mr. C. Clark of Raisinville, calling attention to the failure of the Detroit & Lima Northern Railway Company to build the necessary legal fences.

The attention of the railroad company was called to this complaint and a communication was received from them to the effect that the matter would receive immediate attention.

Dec. 1. Communication was received from Mr. O. W. Quick of Milan, complaining about the condition of the right of way fences along the Wabash Railroad at that place.

This matter was taken up by correspondence with the officials of the Wabash Railroad Company and a promise was received from them that the necessary work of reconstruction should be done immediately.

FARM CROSSINGS.

January 11, a communication was received from Milo White, of North Star, Michigan, calling attention to the fact that the Ann Arbor Railroad Company had failed to provide him with a farm crossing at his place, near North Star.

The attention of the railroad company was called to this complaint and the request of Mr. White was complied with to his satisfaction.

March 16, communication was received from Charles E. White of Niles, Michigan, asking that a farm crossing be constructed over the tracks of the Cleveland, Cincinnati & St. Louis Railway Company at his place.

This matter was taken up by correspondence with the railway company and the request of Mr. White was promptly complied with.

June 17, a communication was received from Dr. G. W. Dunphy of Quincy, Michigan, calling attention to the fact that the farm crossing over the Lake Shore & Michigan Southern Railway, which had been maintained at his place, situated in the village of Quincy, for a number of years with wing fences and cattle guards, had been changed by the railway company, by the removal of such wing fences and cattle guards, leaving the crossing in the same condition as an ordinary farm crossing, and requesting that some kind of protection be provided thereat.

After a personal investigation of the location of this crossing, it was decided that there was no reason why same should be treated differently from any other ordinary farm crossing, therefore the petition of Mr. Dunphy for protection, was denied.

June 24, a communication was received from Mr. G. W. Van Schoick of Bay Shore, Charlevoix county, claiming that the gates which were provided at his farm crossing, over the Chicago & West Michigan Railway, did not comply with the requirements of the law, and that for this reason they were constantly left open, and asking that the railway company be required to furnish a different style of gate.

An inspection was made of this crossing by representatives of the department and it was found that the gates referred to complied in every

respect with the requirements of the statute, therefore no action was taken except to advise Mr. Van Schoick that it would be necessary for him to keep his gates closed at all times when the crossing was not in use.

July 20, a complaint was received from Mr. M. H. Meyer, claiming that the Detroit & Lima Northern Railway Company had not provided him with the necessary farm crossing at his place, one-quarter mile east of Dundee.

This matter was taken up by correspondence with the railway company, and after an investigation, the crossing was provided, as required by law.

July 19, a communication was received from Mr. R. Hammond of Thompsonville, Michigan, calling attention to the fact that the Arcadia & Betsey River Railway Company refused to furnish him with suitable farm crossing near Henry Station, in Manistee county.

An inspection of the location of this crossing was made by representatives of the department and the Arcadia & Betsey River Railway Company was ordered to provide and maintain a suitable crossing, as required by law, which order was promptly complied with.

August 1, a complaint was received from Ira Stonehouse of Fibre, Michigan, alleging that the Minneapolis, St. Paul & Sault Ste. Marie Railway Company had not furnished him with a suitable farm crossing. This case is still pending.

September 9, petition was received from George T. Ives of Plainwell, Michigan, setting forth that the Grand Rapids & Indiana Railway Company had closed under grade cattle pass under their tracks at his place, and had refused to reopen the same, and requesting that action be taken by the department, requiring the railway company to reopen and maintain this cattle pass.

The matter was taken up by correspondence with the railway company, and before any final conclusion had been arrived at a request was received from the attorney representing Mr. Ives, that no further action be taken by the department, and presuming that a settlement had been arranged between the railroad company and the complainant, the case was considered closed.

September 23, petition was received from T. H. Dwyer of Owosso, Michigan, asking that the Detroit, Grand Haven & Milwaukee Railway Company be required to furnish a suitable farm crossing at his place, two and one-half miles west of Owosso.

An inspection of the location of this proposed crossing was made by representatives of the department and an order was issued requiring the Detroit, Grand Haven & Milwaukee Railway Company to provide the crossing as requested.

October 11, petition was received from Stephen W. Dunwell and Frank Shinville of Plainwell, asking that the Grand Rapids & Indiana Railway Company be required to remove obstructions which had been placed in the under grade cattle passes upon their farms.

This matter was promptly taken up with the railway company and is still pending.

October 16, a communication was received from Mr. G. D. V. Rollo of Mullet Lake, Michigan, requesting that an investigation be made of the farm crossing upon his place over the tracks of the Michigan Central

Railroad, near Mullet Lake, for the purpose of determining whether the same should not be treated as a residence crossing and provided with wing fences and cattle guards, as required by the statutes in case of residence crossing.

After a personal inspection of this crossing by representatives of the department, it was decided that this was properly a farm crossing and was equipped as required by law, and the request was therefore denied.

October 23, a request was received from Mrs. Fred Spicer of Eaton Rapids, asking for a farm crossing over the tracks of the Lake Shore & Michigan Southern Railway, on her farm, situated within the corporate limits of the city of Eaton Rapids. The attention of the railway company was called to this request, and after an inspection of the premises the request was denied.

MISCELLANEOUS COMPLAINTS.

Jan. 2. Complaint was received from the officials of the Chicago & West Michigan Railway Company, alleging that they were still experiencing difficulty with Mr. Conrad Kabel, of Hartford, on account of his failure to keep the farm gates at his place closed.

This matter was taken up again by correspondence with Mr. Kabel, and an inspection of the location of the crossing was made by representatives of this department, and it was finally agreed by the parties in interest that the gates should be permitted to remain, and should be kept closed until an investigation of the record of the county might be made by Mr. Kabel and a representative of the railroad company, and after such investigation, if it was found that the crossing was a regular highway crossing, it should be provided with wing fences and cattle guards at the expense of the railroad company; but if found that it had never been opened as a highway crossing it should be maintained as at present as a farm crossing, with gates, which Mr. Kabel agreed to keep closed.

Jan. 2. Complaint was received from Mr. William Cotter, Superintendent of the Chicago & Grand Trunk Railway Company, claiming that he had made some very necessary repairs upon the crossing of the Lansing Electric Railway, with his company's tracks on Washington Avenue, Lansing, and that after the repairs had been made a bill had been presented to Mr. J. J. Baird, General Manager of the Lansing Electric Railway for the expense of such repairs, which bill Mr. Baird refused to pay, and asking that the department take some action towards an enforcement of the orders issued, or requiring Mr. Baird to pay the expense of such repairs.

After an investigation of the matter had been made, the Superintendent of the Grand Trunk railway was authorized to remove the crossing entirely from his company's tracks until such time as the Lansing Electric Company were prepared to put in standard crossing frogs as ordered by the department.

Jan. 2. Complaint was received from Messrs. M. I. Brabb and L. E. Bedell of Romeo, on account of the train service which was furnished by the Air Line Division of the Grand Trunk Railway, through their place, claiming that the trains were not made up as required by law.

An investigation of this matter was made by representatives of the

department and it was agreed by the officials of the railroad company that the practice of hauling stock cars ahead of the passenger cars should be discontinued, and that more particular attention should be given to making the necessary connections with the other lines of road.

Jan. 7. Complaint was received from A. E. Willard of Empire, calling attention to the fact that the Ann Arbor Railroad Company did not carry passengers to the city of Frankfort, although they sold tickets to that station, but that the last stop made on the line was at South Frankfort, where the station facilities were inadequate and where passengers were left at two o'clock in the morning with no means of reaching the city until the next day.

This matter was taken up with the Ann Arbor Railroad Companies and orders were promptly issued discontinuing this practice and requiring that all passengers should be carried to the station.

Jan. 15. Complaint was received from J. M. Bowen of Mackinaw City, regarding use of a farm crossing over the Michigan Central Railroad Company's tracks at his place, which it was claimed the officers of the Michigan Central Railroad Company had forbidden certain parties to make use of, although they had rented a portion of the land for banking purposes.

This matter was referred to the Attorney General for an opinion as to the rights of persons to rent the use of a farm crossing and upon receipt of this opinion which was to the effect that a reasonable use of such crossings might be made for the hauling of logs, or other products to a shipping point, Mr. Bowen was advised that the use made of his crossing was a legitimate one, and that the railroad company would be required to permit a continuance of such usage.

Jan. 26. Complaint was received from L. S. Hills, of Irving, on account of the failure of the Michigan Central Railroad Company to furnish the required number of cars for the shipment of hay from that place, and claiming that they were being discriminated against in favor of some other stations.

This matter was called to the attention of the Michigan Central Railroad Company and it was shown by them that the kind of cars which were used for the shipment of hay are not very plentiful and are in great demand, and that a system of distribution of these cars had been adopted by the company, which does not discriminate against any station, but allows each one its proportionate share, according to the demand; therefore no action was taken in this case.

Feb. 4. Complaint was received from F. C. Wright, of Cone, claiming that the Wabash Railroad Company had blocked the highway crossing at that place on February 3rd, for more than half an hour, with great inconvenience to himself and other travellers on the highway.

This matter was called to the attention of the officials of the Wabash Railroad Company and orders were promptly issued, putting a stop to this practice of blocking the highway crossing.

Feb. 13. Complaint was received from Thomas Haines Parks, of Willow, alleging that the Flint & Pere Marquette Railroad Company did not provide suitable station facilities at that place.

This matter was taken up promptly with the officials of the railroad company and was adjusted satisfactorily to the interested parties.

Feb. 16. Complaint was received from Elam Stanton, superintendent

Kalamazoo Division, Lake Shore & Michigan Southern Railway Company, claiming that an engine on the Detroit, Toledo & Milwaukee Railway had run over their crossing at Allegan when the target was set for the Lake Shore & Michigan Southern Railway and against the Detroit, Toledo & Milwaukee Railroad, and that a collision at the crossing was very narrowly averted.

The attention of the D. T. & M. R. R. Co. was called to this complaint and orders were issued putting a stop to the dangerous practice.

Feb. 17. Petitions were received from a number of residents along the line of the abandoned right of way of the Toledo, Ann Arbor & Northern Michigan Railway, in Oakland county, near South Lyon, asking that some steps be taken requiring the railroad company to deed back to the former owners all such property as is not at present in use by the railway company.

An inspection of this matter was made, upon the premises, by representatives of the department and arrangements were made whereby the Ann Arbor Railroad Company, as successor of the Toledo, Ann Arbor & Northern Michigan Railway Company, agreed to deed back to all interested parties the property referred to, upon application being made to them, which disposition of the question was satisfactory to all interested parties.

Feb. 21.—Complaint was received from O. C. Pangborn, of Barryton, on account of an alleged practice of the Detroit, Grand Rapids & Western Railroad Company of loading cars on their main line tracks near that place.

This matter was called to the attention of the railroad company and communication was received to the effect that this practice would be immediately stopped.

March 3. Complaint was received from C. W. Culbertson, of Ridgeway, on account of the failure of the Detroit & Lima Northern Railway Company to stop certain trains at that station for the accommodation of the people there.

This matter was taken up with the officials of the railway company and arrangements were made for the stopping of the trains as desired.

March 5. Communication was received from L. Strutzenberg, of Topinabee, calling attention to the fact that the farm crossing at his place had been closed by the Michigan Central Railroad Company because he had made use of the same for the hauling of logs to Mullett Lake.

This matter was called to the attention of the railroad company and instructions were issued for the re-opening of the crossing to the satisfaction of the complainant.

March 13. Petition was received from J. A. Miller and ninety-nine other residents of the village of Vickeryville, asking that the Grand Trunk Railway Company be required to station and maintain a station agent at that place, which is located on the Toledo, Saginaw & Muskegon Division of the Grand Trunk Railway.

After a personal investigation of this complaint an order was issued requiring the Grand Trunk Railway Company to maintain an agent at that station, which order has been complied with.

March 15. Complaint was received from E. Mudge, of Bimo, alleging that the Detroit & Lima Northern Railway Company and the Lake Shore & Michigan Southern Railway Company were both in the habit of running the crossing at that place, in violation of the law.

This matter was taken up with the officials of both railway companies, a personal investigation was made by the representatives of the department and it was agreed by both companies that orders should be issued requiring their trainmen to comply strictly with the requirements of the law.

March 8. Communication was received from Mr. A. Torrey, chief engineer of the Michigan Central Railroad Company, calling attention to the fact that the interlocking appliance at the crossing of the Midland & Hubbard Railroad, with the Michigan Central Railroad at Midland, was out of service, and in a very unsatisfactory condition.

This matter was promptly taken up with the Flint & Pere Marquette Railroad Company which company operates the Midland & Hubbard Railroad, and orders were issued requiring them to station and maintain a flagman at the crossing until such time as the interlocker should be repaired and put back into service.

March 20. Complaint was received from Mr. B. W. McCredie, of McKinley, calling attention to the fact that the Au Sable & Northwestern Railway Company was taking up the track which extends to his mill, to his great inconvenience.

This matter was taken up with the railway company and satisfactorily adjusted.

April 7. Complaint was received from Thomas McEwing, of Lansing, on account of the failure of the Michigan Central Railroad Company to make connections with the Detroit, Grand Haven & Milwaukee Railway at Owosso Junction, but it was decided that this was a matter which was not within the jurisdiction of the Commissioner of Railroads, although the attention of the company was called to the complaint with the request that satisfactory arrangements be made for connections at this junction.

April 11. Complaint was received from Jesse A. Osgood, of Cloverdale, calling attention to the fact that the Cincinnati, Kalamazoo & Saginaw Railroad Company were in the habit of making flying switches at that place, which practice he considered to be very dangerous, as the switches were made over a crossing.

The attention of the officials of the railroad company was called to this complaint and orders were promptly issued, putting a stop to this practice.

April 22. Communication was received from H. E. Coblenz, of Ironton, on account of the abandonment by the Chicago & West Michigan Railway Company of its Ironton Branch, and asking that the company be required to permanently abandon its right of way in order that the residents along the line might again take possession of the same.

After some correspondence with the railway company it was decided that no orders should be issued at present, on account of the fact that there is a possibility that the company may desire to make use of this right of way again in the near future.

April 29. Petition was received from a number of citizens of the village of Perry, asking that the Chicago & Grand Trunk Railway Company be required to move its depot from its present location in order that they might be enabled to open another street across the tracks.

Inspection was made of the location of this proposed crossing and it was decided that no action should be taken by the department requiring them to remove their station for the reason that the street crossings in

the village are properly maintained and protected, furnishing the traveling public reasonable traveling facilities.

June 6. Complaint was received from Dr. T. J. O'Malley, of Choate, on account of the alleged unsatisfactory service furnished on the Brule River Division of the Chicago & Northwestern Railway, between Watersmeet and Choate.

A personal inspection of the premises was made by representatives of the department and an order was issued requiring the Chicago & Northwestern Railway Company to improve the service by attaching a regular passenger coach to the mixed train, for at least one trip each way, daily, which order was complied with.

June 15. Communication was received from D. S. Sutherland, division superintendent of the Michigan Central Railroad, company alleging that the requirements of the law with reference to the stopping of electric cars at railroad crossings were not being complied with at Woodward avenue, in the city of Detroit.

A personal investigation of this complaint was made by representatives of the department and it was found that the law had been complied with and all cars were required to come to a full stop at the crossing and receive signals from a flagman permanently stationed there, which plan is considered to be a reasonably safe one for handling this traffic.

July 3. Complaint was received from Otis T. Clapp, of Adrian, on account of the practice of the Wabash Railroad Company of blockading the farm crossing at his place, while doing their switching.

This matter was called to the attention of the railroad company and orders were issued requiring the trainmen to be very careful and not blockade the crossing except when absolutely necessary to do so.

July 4. Complaint was received from Frank H. Powers, of Flint, calling attention to the fact that engines number 1145 and 999 on the Chicago & Grand Trunk Railway were being operated without being equipped with power brakes, as required by law.

This matter was taken up with the railroad company and orders were issued ordering the engines in question out of service, until they could be properly equipped.

July 8. Complaint was received from Arthur J. Lacy, on account of the abandonment of the station at Nirvana, by the Flint & Pere Marquette Railroad Company.

This matter was taken up with the officials of the railroad company, an inspection of the premises was made by representatives of the department and without any formal order being issued, arrangements were made for the re-opening of the station to the satisfaction of the people at that place.

July 18. Complaint was received from Herman Reichert, of Detroit, on account of the practice on the part of the Wabash Railroad Company running "double headers."

An investigation was made of this complaint by a representative of the department and it was found that trains on the Wabash Railroad were being run in accordance with the requirements of law, there being no statute prohibiting the running of what is known as "double headers."

June 20. Communication was received from William Cotter, superintendent of the Chicago & Grand Trunk Railway, calling attention to a collision which had occurred at the crossing of the Detroit, Grand Haven

& Milwaukee Division of the Grand Trunk Railway with the Detroit, Grand Rapids & Western Railroad, at Ionia.

A careful investigation of the cause of this collision was made by representatives of the department and an inspection of the premises was made and it was finally decided that the practice in vogue at this crossing of requiring a hand signal to be given on the Detroit, Grand Haven & Milwaukee line, in addition to the semaphore signal was an unsatisfactory practice and it was suggested that the rules be changed so that the crossing might be controlled entirely by the semaphore signals, which suggestions were acted upon and the required change in the rules made.

June 28. Complaint was received from F. E. Shaler of Boyne City, alleging that engineers were employed upon the Boyne City & South-eastern Railroad who were color blind, thus endangering the safety of the traveling public.

An investigation of this complaint was made and it was found to be unfounded, and no action was taken.

July 25. A number of complaints were received alleging that the freight trains on the Wabash Railroad which were run as "double headers" were not supplied with the necessary number of brakemen and that their method of running trains was a very dangerous one.

After a careful investigation of these complaints it was decided that there had been no violation of the law on the part of the railroad company and no action could be taken by the department.

Aug. 14. Complaint was received from Mr. George H. Houser, of Sidnaw, on account of the alleged dangerous practice of the Chicago, Milwaukee & St. Paul Railway Company running over certain crossings in the village of Sidnaw.

An investigation of this complaint was made and an inspection of the premises was made by representatives of the department and an order was issued requiring the Chicago, Milwaukee & St. Paul Railway Company to flag all fast trains over Erie street crossing in the village of Sidnaw, which was satisfactory to the complainant.

Aug. 29. Complaint was received from B. F. Bush, of Grand Blanc, on account of the dangerous condition of certain crossings of the Flint & Pere Marquette Railroad at that place.

A personal inspection of the premises was made in this case, and arrangements were made requiring the Flint & Pere Marquette Railroad Company to reduce the rate of speed of certain trains through Grand Blanc, which was satisfactory.

Sept. 5. Complaint was received from Elliott H. Barker, of Vicksburg, on account of the blocking of his farm crossing by freight trains on the Grand Rapids & Indiana Railway, near Vicksburg.

The attention of the railroad company was called to this complaint and it was agreed that a stop should be immediately put to the practice, orders to the trainmen having been issued to that effect.

Sept. 10. Personal complaint was received from J. F. Moyer, of Milletts, on account of the blocking of the highway crossing at that place, by trains on the Chicago & Grand Trunk Railway.

This matter was called to the attention of the officials of the railway company and orders were immediately issued putting a stop to this practice.

Sept. 12. Communication was received from W. C. Ransom, of St.

Joseph, calling attention to the condition of a viaduct over the St. Joseph, South Bend & Southern Railway between St. Joseph and Benton Harbor, and asking that an inspection of the structure be made by this department for the purpose of determining whether or not the same was in a safe condition. Upon investigation it was found that the matter did not come within the jurisdiction of the department.

Sept. 20. Complaint was received from C. L. Halladay, of Sebewa, calling attention to the fact that it was proposed by the Detroit, Grand Rapids & Western Railroad Company to remove a spur track at his place, to his great inconvenience, on account of the fact that he desired to ship a large quantity of wood over this road during the present season.

While it was not considered that this matter properly came within the jurisdiction of the department, the attention of the railroad company was called to the request of Mr. Halladay and the company was asked to permit the track to remain for a reasonable length of time, which it agreed to do.

Sept. 22. Complaint was received from Mr. E. C. Cummings of Carson City, on account of the alleged unsatisfactory train service furnished by the Toledo, Saginaw & Muskegon Division of the Grand Trunk Railway.

An investigation of this complaint was made by representatives of the department and it was found that the service furnished complied in every respect with the requirements of law.

Sept. 23. Complaint was received from J. C. Emery of Grand Rapids, alleging that the Boyne City & Southeastern Railroad Company was charging more than three cents per mile for the carrying of passengers upon its line.

This matter was called to the attention of the railroad company and they were advised that they would be required to comply with the provisions of the law.

Oct. 2. Complaint was received from Mr. E. R. Rowley, of Battle Creek, on account of the condition of an engine on the Chicago & Grand Trunk Railway, claiming that this engine was in an unsafe condition and placed in his charge as engineer, and that the burning of a boiler which had been charged to him was really done before the engine came into his care.

An investigation of this complaint was made by representatives of the department and it was decided that the charge made by Mr. Rowley was not well founded, therefore no action was taken.

Oct. 25. Complaint was received from T. J. Fox, chairman of the railroad committee, Michigan Knights of the Grip, calling attention to the fact that certain agents on the Chicago & Grand Trunk Railway and the Flint & Pere Marquette Railroad did not comply with the requirements of the law, regarding the posting of bulletins, announcing the time of passenger trains, when the same were not on time.

The attention of the officials of these companies was called to the complaint and orders were issued requiring all of their agents to post the bulletins as required by law.

Oct. 26. Complaint was received from Samuel Rockwell, engineer, Michigan Southern Division, Lake Shore & Michigan Southern Railway, calling attention to the fact that a large number of people along the line of their road did not keep the gates at their farm crossings closed, as required by law.

This matter was taken up with each of the alleged offenders and attention was called to the provision of the statute and the penalty for its violation, and they were instructed that they would be required to comply with all of the requirements of law.

Nov. 28. Complaint was received from Mr. James W. Smith, postmaster, at Truitts, claiming that the Cleveland, Cincinnati, Chicago & St. Louis Railway discriminated in the stopping of passenger trains in favor of some of the citizens of that place, and asking that they be required to furnish the same accommodations to all of their patrons, without discrimination.

This matter was taken up with the railway company and it was found that only on one occasion had a fast passenger train not scheduled to stop at that station, made a stop for the accommodation of a couple of passengers, but that it was done by the conductor, in violation of his orders. It was therefore decided that the complaint was not well founded and no action could be taken by the department.

RAILROAD AND STREET RAILWAY CROSSINGS.

Jan. 1. Application was received from the Escanaba Electric Street Railway of Escanaba, for the approval of a number of crossings with the tracks of the Chicago & Northwestern Railway in and near the city of Escanaba. The plans submitted for these crossings showed what is generally called a jump crossing and the same were not approved by the department.

Jan. 2. Application was received from the Michigan Central Railroad Company for the approval of a grade crossing with the tracks of the Detroit, Ypsilanti & Ann Arbor Railroad Company at Eloise Station, in Wayne county.

A personal inspection of the location of this crossing was made by a representative of the department, a hearing was held in the office of the commissioner of railroads and the crossing was approved.

Feb. 8. Application was received from the Detroit, Plymouth & Northville Railway Company, asking for the approval of a temporary grade crossing over the tracks of the Flint & Pere Marquette Railroad Company on Ann Arbor street in the village of Plymouth, and after an inspection of the premises had been made and a hearing given to the companies in interest, an order for such temporary crossing was issued.

Feb. 13. Application was received from the Detroit & Lima Northern Railway Company for the approval of a crossing of the spur track over the tracks of the Wyandotte & Detroit River Railway in the township of Ecorse, Wayne county.

After an inspection of the location of the premises by a representative of the department, the crossing was approved and the Detroit & Lima Northern Railway Company was ordered to construct and maintain a half interlocker at such crossing.

Feb. 28. Application was received from the Manistee, Filer City and East Lake Railway Company, for the approval of crossing of its line with the tracks of the Flint & Pere Marquette Railroad Company, and the Manistee & Northeastern Railroad Company.

After an inspection of the location of these crossings, the same were approved.

March 7. It having been called to the attention of the department that the crossings of the Bay Cities Consolidated Railway Company's tracks with the tracks of the Michigan Central Railroad and the Cincinnati, Saginaw & Mackinaw Railroad on Center street, in West Bay City, were in bad condition, the Bay Cities Consolidated Railway Company was ordered to reconstruct the same with standard crossing frogs, which order was complied with.

May 24. The attention of the department was called to the condition of the crossing of the Lansing City Electric Railway with the tracks of the Lake Shore & Michigan Southern Railway on Franklin street, north Lansing, and after an inspection of the premises had been made, by representatives of the department, an order was issued requiring the construction of a standard crossing at this point.

June 2. Application was received from the Detroit & Lake Orion Railway Company, for the approval of crossings of its line with the tracks of the Michigan Central Railroad Company and the Chicago & Grand Trunk Railway, Air Line Division, in the village of Rochester, and with the Detroit, Grand Haven & Milwaukee Railway in the village of Royal Oak.

The crossing of the Michigan Central tracks on Main street, in the village of Rochester, was approved and a half interlocking appliance ordered for the protection of the public at this crossing.

The crossing of the Grand Trunk Railway, Air Line Division, on Main street, in the village of Rochester, was ordered made by means of an over-head crossing bridge.

The crossing of the Detroit, Grand Haven & Milwaukee Railway Company at Royal Oak, was ordered made at grade, and protected by an interlocking and derailing system.

June 7. The attention of the department was called to the condition of an over-head bridge crossing the tracks of the Michigan Central Railroad on Washington street in West Bay City, which was in a dangerous condition.

After an inspection had been made of the structure, by a representative of this department, an order was issued requiring the Bay Cities Consolidated Railway Company to discontinue running its cars over the structure until such time as the same might be properly reconstructed and renewed.

June 28. Application was received from the Ypsilanti & Saline Electric Railway Company for the approval of grade crossing over the tracks of the Ann Arbor Railroad Company, about one and one-quarter mile south of Pittsfield Junction, Washtenaw county.

After an inspection of the location of this crossing had been made by representatives of the department, and a hearing held, it was decided that the Ypsilanti & Saline Electric Railway Company should be required to construct an over-head crossing bridge, and an order was issued to that effect.

Aug. 1. Application was received from the Detroit, Plymouth & Northville Railway Company, for the approval of crossing of the tracks of the Flint & Pere Marquette Railroad Company, between Plymouth and Northville.

After an inspection of the location of this proposed crossing, an order was issued requiring the Detroit, Plymouth & Northville Railway Company to change their line and make an under-grade crossing under the tracks of the Flint & Pere Marquette Railroad Company.

Aug. 2. Application was received from the Escanaba Electric Railway Company, for the approval of crossings of its line with the Escanaba Iron Mountain & Western Railroad Company and the Chicago & Northwestern Railway Company, in the city of Escanaba.

An inspection of the location of these crossings was made by representatives of the department, and the case is still pending.

Aug. 5. Application was received from the Detroit, Plymouth & Northville Railway Company for the approval of crossing of its line with the tracks of the Detroit, Grand Rapids & Western Railroad Company, in the village of Plymouth.

An agreement having been filed between the railroad companies in interest, for a grade crossing at this point, the same was approved and a half interlocker was ordered for the protection of said crossing.

Sept. 25. Application was received from the Detroit & Northwestern Railway Company for the approval of crossings of its line with the tracks of the Chicago & Grand Trunk Railway at Orchard Lake, and the Flint & Pere Marquette Railroad Company at Northville.

After an inspection of the location of these crossings, orders were issued requiring the Detroit & Northwestern Railway Company to make both crossings by means of over-head bridges, which orders have been complied with.

Oct. 17. Application was received from Louis Sands, of Manistee, asking for the approval of the grade crossing on the line of his logging road, with the tracks of the Grand Rapids, Kalkaska & Southeastern Railroad Company, in Kalkaska county.

After an inspection of the location of this crossing an order was issued approving the same and ordering for the protection of the crossing, that gravity gates should be constructed thereat.

LEGAL RATES OF FARE FOR CARRYING PASSENGERS IN THE DIFFERENT STATES
OF THE UNITED STATES.

Alabama.....	.03	Montana.....	.04
Arkansas.....	.03 to .05	Nebraska (a).....	.0257
California.....	.02½ to .05	Nevada.....	.05 to .10
Colorado.....	.04 to .05	New Hampshire.....	.02 to .03
Connecticut.....	.02	New Jersey.....	.03
Florida.....	.02½ to .04	New York.....	.02 to .10
Georgia.....	.04	North Carolina.....	.03 to .03½
Idaho.....	.05	North Dakota.....	.04
Illinois.....	.03	Ohio.....	.03
Indiana (a).....	.0207	Oregon.....	.04
Iowa.....	.03 to .04	Pennsylvania (a).....	.0195
Kansas.....	.03	Rhode Island (a).....	.0199 to .0625
Kentucky.....	.03 to .07	South Dakota.....	.03 to .05
Louisiana.....	.03 to .04	Tennessee.....	.03 to .05
Maine.....	.03 to .04	Texas.....	.03
Maryland.....	.02 to .03	Utah.....	.05
Massachusetts (a).....	.0179	Vermont.....	.03
Michigan.....	.02 to .03	Virginia.....	.03
Minnesota.....	.03	Washington.....	.04
Mississippi.....	.03 to .04	Wisconsin.....	.02 to .03
Missouri.....	.03 to .04	Wyoming.....	.04 to .05

(a) Average rate received in these states for the carrying of passengers.

Countries of the world.	First class.	Second class.	Third class.
United Kingdom.....	.04	.025	.02
France.....	.04	.03	.02
Germany.....	.03	.022	.016
Russia.....	.036	.023	.016
Austria.....	.038	.023	.018
Italy.....	.038	.023	.018
Spain.....	.042	.032	.02
Portugal.....	.036	.023	.02
Sweden.....	.03	.022	.016
Norway.....	.016	.01	.005
Denmark.....	.032	.022	.016
Holland.....	.05	.0375	.025
Belgium.....	.024	.019	.012
Switzerland.....	.038	.023	.02
Greece.....	.023	.018	.014
Turkey.....	.058	.052	.023
Canada.....	.018		
Mexico.....	.05	.035	.02
Nicaragua.....	.032		.01
Costa Rica.....	.0266		.02
Hawaii.....	.035	.03	

LIST OF STREET RAILWAY COMPANIES.

Date.	Name.	Location.	Capital.
1-5-89	Ann Arbor St. Ry. Co.....	Between Ann Arbor, Ypsilanti and Detroit.....	\$100,000
8-28-90	Ann Arbor, Ypsilanti & Detroit St. Ry. Co.....	Streets of Ann Arbor and Ypsilanti and highways between.....	50,000
8-30-90	Ann Arbor & Ypsilanti Street Ry. Co.....	City and twp. Ann Arbor, twp. Pittsfield, Ypsilanti and other cities, villages and twps. in Washtenaw and Wayne counties.....	100,000
89-20-96	Ann Arbor & Ypsilanti Electric Ry. Co.....	Adrian.....	100,000
8-30-88	Adrian City Electric Belt Ry. Co....	Village of Arcadia, easterly 20 miles..	50,000
4-10-83	Arcadia & Betsey River Train Ry. Co.	In Adrian.....	25,000
6-23-83	Adrian City Train & St. Ry Co.....	In Bay City and into twp. of Portsmouth.....	6,000
11-24-83	Bay City St. Ry. Co.....	In Benton Harbor.....	60,000
2-4-88	Benton Harbor St. Ry. Co.....	Benton Harbor to Paw Paw Lake. 11 miles.....	10,000
9-12-95	Benton Harbor, Coloma & Paw Paw Lake Train Ry. Co.....	Benton Harbor and adjacent city and tps.....	25,000
4-24-97	Benton Harbor & Eastman Springs Electric Ry. Co.....	City and twp. of Battle Creek.....	25,000
5-4-86	Battle Creek St. Ry. Co.....	Battle Creek.....	35,000
8-28-82	Battle Creek Ry. Co.....	City and twp. of Battle Creek or Calhoun county.....	25,000
6-1-91	Battle Creek Electric Ry. Co.....	Bear Lake to Lake Michigan at Pierport.....	100,000
1-19-76	Bear Lake Train Ry. Co.....	City of Pontiac and twp. and villages adjacent.....	10,000
12-9-98	Bloomfield & Orchard Lake Ry. Co.	Village of Belding to Cook's Corners, in twp. Otisco.....	25,000
5-4-92	Belding St. Ry. and Improvement Co.....	Bay City to village of Sebewaing, 30 miles.....	20,000
12-23-97	Bay, Tuscola & Huron Ry. Co.....	Bay City & West Bay City and territory adjoining.....	100,000
2-25-98	Bay Cities Consolidated Ry. Co.....	City of Grand Rapids and towns adjoining.....	1,000,000
10-11-87	City St. Ry. Co. of Grand Rapids...	City of Grand Rapids and twp. and villages adjacent.....	100,000
7-11-91	Consolidated St. Ry. Co. of Grand Rapids.....	City and adjoining twps.....	3,000,000
6-2-87	Cable St. Ry. Co.....	City of Kalamazoo and adjoining twps.....	500,000
5-1-93	Citizens' St. Ry. Co.....	City of Port Huron and twp. of Gratiot.....	200,000
9-16-73	City Railroad.....	Detroit.....	50,000
7-14-92	Capitol St. Ry. Co.....	Detroit.....	25,000
9-17-75	Congress & Baker St. Ry. Co.....	Battle Creek, twps. Emmett, Penfield and Battle Creek.....	100,000
8-23-77	Cass Avenue Ry. Co.....	Detroit and twps. and villages adjacent.....	100,000
10-8-94	Citizens' St. Ry. Co. of Battle Creek	Cities of Port Huron, Ft. Gratiot and twps. of Port Huron and Ft. Gratiot.....	100,000
3-20-94	City & Suburban Traction Co.	Detroit.....	25,000
5-26-92	City Electric Ry. Co. of Port Huron...	Detroit to Hamtramck.....	100,000
11-9-72	Detroit Western Transit Ry. Co.....	Detroit and vicinity.....	50,000
9-21-72	Detroit Transit Ry.....	Detroit and towns and villages adjacent.....	25,000
5-19-86	Detroit Electric Ry. Co.....	City and adjacent counties, twps. and villages.....	1,000,000
7-10-96	Detroit Electric Ry.....	Twps. Springwells and Dearborn.....	4,000,000
9-2-91	Detroit Citizens' St. Ry. Co.....	Village of Oxford to city of Flint, 32 miles.....	100,000
12-2-91	Detroit, Springwells & Dearborn Ry. Co.....	Detroit and vicinity.....	250,000
11-28-99	Detroit, Lake Orion & Flint Ry.....	City of Detroit, twp. of Greenfield and adjoining twps.....	25,000
7-11-99	Detroit Municipal Railway.....	Twp. Springwells.....	50,000
12-14-92	Detroit Metropolitan St. Ry. Co.....	Detroit and counties and twps. adjacent.....	25,000
3-15-93	Detroit, Rouge River & Dearborn St. Ry. Co.....	Detroit and adjoining territory.....	200,000
11-1-92	Detroit Suburban Ry. Co.....	Detroit and adjacent twps. and villages.....	500,000
12-27-90	Detroit Suburban St. Ry. Co.....	Detroit, Springwells and Dearborn.....	3,000,000
12-1-90	Detroit St. Ry. Co.....	Detroit and adjacent counties and twps.....	100,000
3-14-91	Detroit & Dearborn St. Ry. Co.....	Marine City to Algonac, to New Baltimore, to Chesterfield Station, to Mt. Clemens.....	1,000,000
12-10-94	Detroit Railway.....		350,000
9-21-95	Detroit & River St. Clair Ry.....		

Date.	Name.	Location.	Capital.
1-30-97	Detroit & Pontiac Ry. Co.....	Detroit and Pontiac and connecting roads.....	\$500,000
11- 3-97	Detroit, Ypsilanti & Ann Arbor Ry. .	Ann Arbor and Ypsilanti, Detroit and other twps. and villages.....	400,000
7-16-96	Detroit, Lake Shore & Mt. Clemens Ry.	Detroit to Mt. Clemens, 23 miles.....	300,000
5-28-98	Detroit, Plymouth & Northville Ry...	Detroit, Dearborn, Wayne, Plymouth and Northville, in county of Wayne; cities of Ypsilanti and Ann Arbor in county of Washtenaw.....	150,000
3- 1-98	Detroit, Fort Wayne & Belle Isle Ry.	Detroit and adjacent twps.....	1,200,000
3-22-99	Detroit & Northwestern Ry.....	Detroit and Pontiac and several twps. and villages named.....	500,000
3-22-99	Detroit, Mt. Clemens & Marine City Ry.	Mt. Clemens, New Baltimore, Algonac and Marine City.....	600,000
3-22-99	Detroit, Rochester, Romeo & Lake Orion Ry.....	Detroit, Pontiac, villages of Royal Oak, Rochester and Orion; twps. Pontiac, Royal Oak, Troy, Orion, Avon and Oakland, Warren and Sterling.....	500,000
6-28-96	East Saginaw St. Ry.....	East Saginaw and cities and twps. adjacent.....	50,000
5-11-87	East Detroit & Grosse Pointe Ry. Co..	Detroit, twps. Hamtramck and Grosse Pointe.....	100,000
7-10-90	Electric Ry. Co.....	City of Grand Rapids, and twps. of Grand Rapids, Paris and Wyoming.....	400,000
3-15-92	Escanaba Electric St. Ry. Co.....	Escanaba.....	50,000
3-12-95	Epworth League Ry.....	Ludington to Hamlin Lake, 4 miles.....	15,000
12- 5-98	Escanaba & Lake Superior Ry.....	Escanaba to Flat Rock; thence northwesterly to S. line of T. 45 R. 28, in Dickinson county, and from Flat Rock to Little Bay de Noquet; thence south to a point near S. E. ¼ Sec. 18, T. 39, R. 22, 60 miles.....	72,000
11-12-90	Flint St. Ry. Co.....	Flint.....	40,000
3-18-91	Flint City Ry. Co.....	Flint.....	50,000
5-28-92	Fort Wayne & Belle Isle.....	Detroit and adjacent twps.....	400,000
5- 2-95	Grand Haven St. Ry. Co.....	Grand Haven.....	25,000
3-17-98	Grand River Electric Railroad Co...	Twp. of Greenfield, Wayne county.....	50,000
3-18-99	Gladstone St. Ry. Co.....	Gladstone.....	25,000
12- 1-90	Grand River Ry. Co.....	Detroit and adjacent twps. and villages.....	1,000,000
2- 9-74	Grand Rapids & Reed's Lake St. Ry. Co.....	Grand Rapids to Reed's Lake.....	35,000
4-21-87	Gratiot Electric Ry. Co.....	Ft. Gratiot to Huronia Beach.....	25,000
12- 9-91	Gratiot Avenue Ry. Co.....	Detroit and adjacent twps.....	25,000
1-31-99	Grand Rapids & Kalamazoo Electric Ry. Co.....	Grand Rapids to Kalamazoo.....	100,000
3- 7-99	Grand Rapids, Grand Haven & Muskegon Ry. Co.....	Grand Rapids to Grand Haven and to Muskegon.....	100,000
7-11-99	Grand Rapids, Belding & Greenville Ry. Co.....	Mill Creek, near Grand Rapids, to Belding and Greenville.....	100,000
11- 3-87	Hamtramck & Grosse Pointe Ry. Co.	Hamtramck and vicinity.....	25,000
5-12-86	Highland Park Ry. Co.....	Vicinity of Detroit.....	50,000
6-23-97	Holland & Lake Michigan Ry. Co....	Holland city and twp.....	150,000
8- 4-99	Houghton County Street Ry. Co.....	Village of Houghton to Hancock, Laurium and Red Jacket, to Allouez Mine, and from Laurium to Lake Linden, Schoolcraft and Torch Lake, through twps. of Osceola, Quincy and Franklin to Houghton.....	25,000
12-15-86	Ironwood & Hurley St. Ry. Co.....	Twp. of Ironwood.....	25,000
11- 7-90	Ishpeming & Negaunee R. R. Co.....	Ishpeming and adjoining twps.....	200,000
3- 8-95	Inter-Urban Ry. of Saginaw.....	From Saginaw to Bay City and West Bay City.....	200,000
8-27-81	Jackson City Ry.....	Jackson.....	50,000
3- 4-91	Jackson St. Ry. Co.....	City and twps. adjoining.....	60,000
11-10-91	Jackson & Northern R. R. Co.....	Jackson to village of Portage.....	12,000
4- 5-99	Jackson & Adrian Electric Ry. Co...	Jackson to Adrian.....	50,000
2- 4-84	Kalamazoo St. Ry. Co.....	Kalamazoo.....	100,000
5-24-89	Kent Co. St. Ry. Co.....	In any city, village or town of Kent county.....	50,000
7-21-90	Kalamazoo City & County St. Ry. Co.	Kalamazoo city and County.....	100,000
4 15-75	Lake Train Ry. Co.....	From Foreman's mill in twp. of Yates, Lake county, to Foreman Station, on F. & P. M. Ry., 2½ miles.....	2,500

COMMISSIONER OF RAILROADS.

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Date.	Name.	Location.	Capital.
6-20-76	Lansing St. Ry. Co.....	Lansing.....	\$25,000
3-4-79	Lake Huron and Southwestern.....	Commence on Tawas Bay, in twp. Tawas, to twp. Alabastis, to twp. Sherman, to twp. Burleigh, all in Iosco county; thence to twp. Edwards, Ogemaw county; thence to west boundary of T. 21, R. 4, in Edwards twp., 26 miles.....	70,000
12-30-85	Lansing City Ry. Co.....	Lansing and adjoining towns.....	50,000
4-30-86	Lansing Transit Ry. Co.....	Lansing.....	50,000
10-28-92	Lansing City Electric Ry. Co.....	Lansing.....	100,000
3-2-96	Lansing Dexter & Ann Arbor Ry. Co.....	Lansing to Ann Arbor.....	250,000
12-27-97	Lansing, St. Johns & St. Louis Ry. Co.....	Lansing to St. Johns and Maple Rapids; thence to Ithaca and St. Louis.....	250,000
11-1-97	Long Lake, Durand & Corunna Electric St. Ry. Co.....	Counties of Genesee and Shiawassee.....	50,000
2-16-99	Lansing, Dexter & Ann Arbor Electric Ry. Co.....	Lansing to Ann Arbor.....	250,000
10-15-73	Main St. Ry. Co.....	Jackson.....	40,000
1-28-97	Muskegon St. Ry. Co.....	Muskegon, village of Muskegon Heights, North Muskegon and twps. Muskegon and Norton.....	225,000
3-30-96	Monroe, Dundee & Lake Erie Ry.	Monroe to Dundee.....	400,000
12-6-82	Manistee St. Ry. Co.....	Manistee.....	25,000
9-19-88	Menominee St. Ry. Co.....	Menominee.....	50,000
10-13-85	Metropolitan Electric Ry. Co.....	Detroit and vicinity.....	50,000
11-30-85	Midland Train Ry. Co.....	Commencing S. E. $\frac{1}{4}$ Sec. 21, T. 14 R. 2, Midland county, southwesterly 12 miles to center of Sec. 36, T. 13 R. 1, 12 miles.....	12,000
8-12-90	Marquette City & Presque Isle Ry. Co.....	City of Marquette to Presque Isle Park.....	200,000
9-1-92	Manistee, Filer City & East Lake Ry. Co.....	Manistee and adjacent twps.....	150,000
4-13-92	Menominee Electric Light Ry. & Power Co.....	Menominee.....	110,000
6-22-96	Mt. Clemens & Lakeside Traction Co.....	City of Mt. Clemens and twps. Chesterfield, Clinton, Harrison and Erin.....	100,000
1-7-96	Mt. Clemens & Lakeside Electric St. Ry. & Dock Co.....	City of Mt. Clemens and twps. Clinton, Harrison and Erin.....	25,000
1-4-97	Michigan Traction Co.....	Cities of Kalamazoo and Battle Creek and counties of Kalamazoo and Calhoun.....	500,000
7-27-98	Michigan & Indiana Ry.....	Cities Benton Harbor, St. Joseph and Niles, villages Berrien Springs and Buchanan and adjoining twps.....	25,000
8-4-98	Mt. Clemens St. Ry. Co.....	Mt. Clemens.....	25,000
4-3-99	Metropolitan Railway Co.....	Detroit and vicinity.....	25,000
5-5-92	Negaunee & Ishpeming St. Ry. & Electric Co.....		150,000
10-4-89	North Park St. Ry. Co.....	Twp. of Grand Rapids, Kent county.....	100,000
8-8-99	North Detroit Electric Ry.....	Twp. of Hamtramck and other twps., cities and villages.....	50,000
2-20-89	Oakdale Park St. Ry. Co.....	Twp. of Paris, Kent county.....	5,000
8-7-90	Owosso City Electric Ry. Co.....	City of Owosso and adjoining towns.....	50,000
10-28-90	Oscoda & AuSable St. Ry. Co.....	Oscoda to AuSable.....	30,000
9-11-91	Owosso & Corunna St. Ry. Co.....	Between Owosso and Corunna.....	50,000
1-24-95	Oakland Ry. Co.....	Village of Royal Oak, with one line to Highland Park and city of Detroit and another line to the city of Pontiac and Orchard Lake; also lines running to Southfield, Franklin and Orchard Lake and by way of Troy Corners and Big Beaver to Rochester.....	50,000
1-31-98	Owosso & Corunna Electric Co.....	Owosso and Corunna and twp. of Caledonia.....	150,000
8-6-86	Port Huron Electric Ry. Co.....	Port Huron and twp. Gratiot.....	25,000
10-29-89	Pontiac & Orchard Lake St. Ry. Co.....		50,000
7-25-95	Pontiac & Sylvan Lake Ry. Co.....	Pontiac city and adjoining towns, 10 miles.....	50,000
5-9-90	Port Huron, St. Clair & Marine City Ry. Co.....	Between Port Huron and Marine City.....	300,000
7-24-90	Port Huron & Port Austin Electric Ry.....	City of Port Huron, villages Port Austin, Port Hope and Harbor Beach, Forestville, Lexington and Port Sanilac and various twps.....	25,000
9-29-99	Petoskey, Harbor Springs & Shore Ry.....	Petoskey, Harbor Springs and adjacent territory.....	25,000

ANNUAL REPORT OF THE

Date.	Name.	Location.	Capital.
8-7-74	Russell St., St. Aubin Ave. & Detroit & Milwaukee Junction Ry. Co.	Detroit and to G. T. R. R. in Hamtramck.	\$30,000
7-6-80	Reed's Lake St. Ry. Co.	Grand Rapids to Reed's Lake.	25,000
4-15-90	Reed's Lake Electric Ry. Co.	Grand Rapids and adjoining territory.	50,000
3-1-94	Rapid Ry. Co.	County of Wayne and other counties.	250,000
7-11-94	Riverside Park Ry. of Saginaw.	City of Saginaw and twp. of Spaulding.	25,000
9-15-73	St. Aubin Ave. St. Ry. Co.	Detroit to Junction D. & M. and G. T. R. R.	30,000
6-11-78	Street Ry. Co. of East Saginaw.	East Saginaw.	25,000
11-12-84	St. Joseph & Benton Harbor St. Ry. Co.	St. Joseph to Benton Harbor and adjacent twps.	100,000
2-3-86	Saginaw St. Ry. Co.	Saginaw and adjoining twps.	30,000
10-2-86	Street Ry. Construction Co.	City of Grand Rapids and twps. Grand Rapids and Paris.	25,000
4-14-87	Soo St. Ry. Co.	Sault Ste. Marie and vicinity.	100,000
6-1-87	Springwells, Ecorse & Wyandotte Ry.	Twps. Springwells and Ecorse and city of Wyandotte.	10,000
8-25-87	Sault Ste. Marie St. Ry. Co.		25,300
10-5-87	Saginaw Union St. Ry.	Saginaw and East Saginaw and adjacent territory.	200,000
11-2-88	South Grand Rapids St. Ry. Co.	City of Grand Rapids and twps. of Wyoming and Paris.	25,000
1-3-89	St. Joseph & Benton Harbor St. Train Ry. Co.	Benton Harbor to St. Joseph.	50,000
11-27-89	St. Ry. Co. of Ludington.	Ludington.	25,000
4-9-94	St. Joseph & Lake Shore St. Ry. Co.	City of St. Joseph and twps. St. Joseph and Lincoln.	75,000
10-30-94	Saginaw Consolidated St. Ry.	City of Saginaw and twps. Saginaw and James.	150,000
2-6-95	Saginaw & Bay City Rapid Transit Co.		100,000
8-17-98	Saginaw & Frankenmuth Ry. Co.	From Saginaw to Frankenmuth.	50,000
1-4-99	Saginaw Valley Traction Co.	To acquire rights of Saginaw Consolidated St. Ry. of Saginaw. Inter-urban Ry. and to operate a street railway in Saginaw and Bay City and adjacent twps. and villages.	1,100,000
2-14-98	Saugatuck, Douglas & Lake Shore Ry. Co.	Between Saugatuck and Douglas and into adjoining towns.	120,000
5-29-98	Twin City General Electric Co.	Consolidation of Ironwood Electric Co. and Twin City Ry. Co.	400,000
3-16-94	Toledo, Monroe & Detroit Electric Ry. Co.	Monroe and Detroit, and in twps. of Bedford, Erie, Lasalle and Monroe, south of Monroe, and Frenchtown and twps. of Brownstown, Monguagon, Ecorse and Springwells in Wayne county.	100,000
9-10-90	Union St. Ry. Co.	Bay City and West Bay City and between same.	100,000
6-10-92	Union St. Ry. Co. of Benton Harbor & St. Joseph, Mich.	Cities of Benton Harbor and St. Joseph and twps. of Benton, St. Joseph and Lincoln.	50,000
10-9-93	Union St. Ry. Co. of Saginaw, Mich.	City of Saginaw.	300,000
1-25-81	West Side St. Ry. Co. of Grand Rapids.		25,000
9-25-87	West Bay City St. Ry. Co.	In West Bay City and into Bay City.	100,000
5-7-92	Wyandotte & Detroit River Ry.	Wyandotte and twps. Ecorse and Monguagon and village of Trenton.	250,000
5-17-99	Ypsilanti & Saline Electric Ry. Co.	City of Ypsilanti, twps. Ypsilanti, Pittsfield and York, village of Saline.	25,000

OFFICIAL ORDERS.

ISSUED BY THE COMMISSIONER OF RAILROADS FOR THE STATE OF MICHIGAN DURING THE YEAR 1899.

1. Jan. 14. To H. A. Whitney, recorder, of Battle Creek, Michigan, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order requiring the M. C. R. R. Co. to station a flagman at the East Canal street crossing in the city of Battle Creek, Mich.

2. Jan. 14. To A. J. Hall, of Mason, Michigan, and H. B. Ledyard, president of the Michigan Central Railroad Company

Special order for the installation of an electric alarm bell at the B street crossing of the M. C. R. R. in the city of Mason, Michigan.

3. Jan. 18. To George H. Marty of Sturgis, Michigan, and P. S. Blodgett, general superintendent of the Lake Shore & Michigan Southern Railway Company.

Special order for the erection of an electric alarm bell at the crossing of Nottaway street by the Lake Shore & Michigan Southern Railway, in the city of Sturgis, Mich.

4. Jan. 18. To George H. Marty of Sturgis, Michigan, J. H. P. Hughart, general manager of the Grand Rapids & Indiana Railway Company, and P. S. Blodgett, general superintendent of the Lake Shore & Michigan Southern Railway Company.

Special order for a flagman at the intersection of West street with the tracks of the two railroad companies, in the city of Sturgis, Mich.

5. Feb. 8. To A. A. Patterson, general manager of the South Haven & Eastern Railroad Company, and J. K. V. Agnew, general superintendent of the Chicago & West Michigan Railway Company.

Special order approving interlocking switch and signal system at crossing of the two roads at Hartford, Van Buren county, Mich.

6. Feb. 13. To F. E. Dewey, general manager of the Detroit & Lima Northern Railway Company, and A. B. du Pont, general manager of the Wyandotte & Detroit River Railway Company.

Special order approving spur track of the Detroit & Lima Northern Railway Company, over the tracks of the Wyandotte & Detroit River Railway, in the village of Ecorse, Wayne county, Michigan.

7. Feb. 13. To D. Shell of Francisco, Michigan, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order, requiring the Michigan Central Railroad Company to construct an alarm bell at the Main street crossing, in the village of Francisco, Michigan.

8. Feb. 20. To H. B. Ledyard, president of the Michigan Central Railroad Company, and J. D. Hawks, president of the Detroit, Ypsilanti & Ann Arbor Railroad Company.

Special order approving spur track of the M. C. R. R. Co. over line of the D. Y. & A. A. R. R., near Eloise, or Wayne County House, Wayne county, Michigan.

9. Feb. 24. To J. K. V. Agnew, general superintendent, Chicago & West Michigan Railway Company, and D. H. Patterson, general manager of the South Haven & Eastern Railroad Company.

Special order for the approval and reconstruction of interlocking appliance at crossing of the two roads at Hartford, Michigan.

10. March 8. To W. R. Morrison, manager of the Bay Cities Consolidated Street Railway Company, H. B. Ledyard, president of the Michigan Central Railroad Company, and William Cotter, superintendent of the Cincinnati, Saginaw & Mackinaw Railroad Company.

Special order requiring the Bay Cities Consolidated Street Railway Company to construct standard crossing frogs at the crossing of its tracks with the tracks of the two railroads on Center street, West Bay City, Michigan.

11. March 9. To D. E. Wheeler of Pulaski, Michigan, and J. B. Flanders, superintendent of the Cincinnati Northern Railroad Company.

Special order, requiring the Cincinnati Northern Railroad Company to construct and maintain an alarm bell at the highway crossing, at Wheelerton, Jackson county, Michigan.

7. March 14. To F. E. Dewey, general manager of the Detroit & Lima Northern Railway, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order approving half interlocking switch and signal system at crossing of the D. & L. N. Ry. Company's tracks with spur track of the Michigan Central Railroad Company, near Wyandotte, Michigan.

8. March 15. To G. A. Hart, president of the Manistee, Filer City & Eastlake Railway Company, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order approving crossing of the M. F. C. & E. L. Ry. Co., with the tracks of the F. & P. M. R. R. Co., in the city of Manistee, Michigan.

9. March 15. To G. A. Hart, president of the Manistee, Filer City and Eastlake Railway Company, and Edward Buckley, president of the Manistee & Northeastern Railroad Company.

Special order approving crossing of the M. F. C. & E. L. Ry. Co., with the tracks of the M. & N. E. R. R. Co., in the city of Manistee, Michigan.

10. March 20. To A. H. Stockman of Arcadia, Michigan, and Henry Starke, president of the Arcadia & Betsey River Railway Company.

Special order for highway crossing over the tracks of the Arcadia & Betsey River Railway Company, in the Township of Arcadia, Michigan.

11. March 31. To J. B. Flanders, general superintendent of the Cincinnati Northern Railroad Company, and E. A. Gould, superintendent of the Wabash Railroad Company.

Special order requiring the two companies to construct and maintain a first class interlocking switch and signal system at crossing of their tracks at Britton, Lenawee county, Michigan.

12. March 31. To H. W. Ashley, general manager of the Ann Arbor Railroad Company, and E. A. Gould, superintendent of the Wabash Railroad Company.

Special order requiring the two companies to construct and maintain a first class interlocking switch and signal system at crossing of their tracks, at Milan, Monroe county, Michigan.

13. April 7. To S. A. Sheldon of Berlin, Michigan, and J. H. P. Hughart, general manager of the Grand Rapids & Indiana Railway Company.

Special order requiring the Grand Rapids & Indiana Railway Company to erect and maintain an electric alarm bell at the second highway cross-

ing of the Muskegon, Grand Rapids & Indiana Railway Company, west of Kinney, Michigan.

14. April 8. To J. B. Flanders, general superintendent of the Cincinnati Northern Railroad Company.

Special order requiring the Cincinnati Northern Railroad Company to construct and maintain an alarm bell at highway crossing west of Wheelerton, Michigan.

15. April 14. To F. E. Dewey, general manager of the Detroit & Lima Northern Railway, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order approving half interlocking switch and signal system at crossing of the two roads, at Wyandotte, Michigan.

16. April 26. To Homer Loring, president of the Interurban Railway, H. B. Ledyard, president of the Michigan Central Railroad Company and William Cotter, superintendent of the Grand Trunk Railway System.

Special order modifying orders requiring mechanical protection at the crossings of the Interurban Railway with the Michigan Central Railroad Company and the Cincinnati, Saginaw & Mackinaw Railroad Company, at Carrollton and Zilwaukee, Michigan.

17. April 29. To Calvin Shoffner, commissioner of highways, of the township of Branch, Mason county, Michigan, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order for highway crossing over the Flint & Pere Marquette Railroad Company's tracks, in the township of Branch, Mason county, Michigan.

18. April 29. To Calvin Shoffner, commissioner of highways of the township of Branch, Mason county, Michigan, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order for highway crossing over tracks of the Flint & Pere Marquette Railroad Company, in the township of Branch, Mason county, Michigan.

19. April 29. To Joseph B. Cunningham, of Boyne City, Michigan, and W. H. White, president of the Boyne City & Southeastern Railway Company.

Special order requiring the Boyne City & Southeastern Railway Company to construct fence between its right of way and the premises of J. B. Cunningham, in the township of Evangeline, Charlevoix county, Michigan.

20. May 2. To F. E. Dewey, general manager of the Detroit & Lima Northern Railway Company, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order approving interlocking switch and signal systems, one-half mile north of Wyandotte, and the Alkali switch No. 2, about three-quarters mile north of Wyandotte, Michigan.

21. May 2. To J. W. Hunter, superintendent of the southern division of the Grand Rapids & Indiana Railway Company.

Special order modifying order of April 20, 1892. in regard to hours of flagman at crossing of Chicago street, in the village of Sturgis, Michigan.

22. May 8. To A. C. Roe, Attorney at Law, Buchanan, Michigan, and A. A. Patterson, Jr., president of the Milwaukee, Benton Harbor & Columbus Railway Company.

Special order for the construction of fences between the right of way of the M. B. H. & C. Ry. and the property of Alvin Bates, in the township of Buchanan, Berrien county, Michigan.

23. May 8. To James D. Platt of Buchanan, Michigan, and A. A. Patterson, Jr., president of the Milwaukee, Benton Harbor & Columbus Railway Company.

Special order for the construction of fences between the right of way of the M. B. H. & C. Ry. and the property of James D. Platt, in the township of Oronoko, Berrien county, Michigan.

24. May 8. To Robert S. Tambling, of Buchanan, Michigan, and A. A. Patterson, Jr., president of the Milwaukee, Benton Harbor & Columbus Railway Company.

Special order for the construction of fences between the right of way of the M. B. H. & C. Ry. and the property of Robert S. Tambling, in the township of Buchanan, Berrien county, Michigan.

25. May 9. To L. M. Richardson, superintendent of the Saginaw Traction Company, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order requiring the Saginaw Traction Company and the Michigan Central Railroad Company to construct and maintain a derailing and signaling appliance at the Hamilton street and Michigan avenue crossings, in the city of Saginaw, Michigan.

26. May 16. To Homer Loring, president of the Interurban Railway Company, and Charles M. Hays, general manager of the Cincinnati, Saginaw & Mackinaw Railroad Company, near Saginaw river bridge, in the township of Portsmouth, Bay county, Michigan.

27. May 16. To the mayor of the city of Adrian, Michigan, and J. R. Megrue, general manager of the Detroit & Lima Northern Railway Company.

Special order for additional protection at the crossing of the D. & L. N. Ry. and Seelye street, in the city of Adrian, Michigan.

28. May 16. To the Citizens of the village of Linden, and William Cotter, superintendent of the Grand Trunk Railway Company.

Special order for the erection of an electric alarm bell at the crossing of the D. G. H. & M. Ry., and Bridge street, in the village of Linden, Michigan.

29. May 23. To William H. Bonfoy, village clerk of Brown City, Michigan, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order for additional protection at the crossing of Main street and the F. & P. M. R. R. Co., in the village of Brown City, Michigan.

30. May 23. P. S. Blodgett, general superintendent of the Lake Shore & Michigan Southern Railway Company and J. J. Baird, general manager of the Lansing City Electric Railway Company.

Special order for the reconstruction of the crossing of the tracks of the two companies, on Franklin street, in the city of Lansing, Michigan.

31. May 23. To J. R. Megrue, general manager of the Detroit & Lima Northern Railway Company, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order approving interlocking switch and signal system at crossing of the two roads at Ecorse, Michigan.

32. May 25. To John A. Schmid, city clerk, Detroit, Michigan, H. B.

Ledyard, president of the Michigan Central Railroad Company, P. S. Blodgett, general superintendent of the Lake Shore & Michigan Southern Railway Company, and William Cotter, superintendent of the Grand Trunk Railway System.

Special order requiring the three railroad companies to construct safety gates at the 14th avenue crossing, in the city of Detroit, Michigan.

33. May 25. To W. R. Morrison, general manager of the Bay Cities Consolidated Railway Company, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order for the abandonment of over-head crossing bridge of the Bay Cities Consolidated Railway Company, across the tracks of the Michigan Central Railroad Company at West Bay City, Michigan.

34. May 26. To Fred P. Baker, city clerk of Flint, Michigan, and William Cotter, superintendent of the Grand Trunk Railway Company.

Special order requiring the Grand Trunk Railway Company to station a flagman at the crossing of the Redfield Road, with their tracks, in the city of Flint, Michigan.

35. May 26. To Fred P. Baker, city clerk, Flint, Michigan, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad.

Special order requiring the Flint & Pere Marquette Railroad Company to construct and maintain safety gates at the crossing of Kearsly and Grand Traverse streets, over the tracks of the F. & P. M. R. R. Co., in the city of Flint, Michigan.

36. May 29. To Hon. Samuel C. Goodyear and Hon. J. J. Carton, of Genesee county, Michigan, and William Cotter, superintendent of the Grand Trunk Railway System.

Special order requiring the Grand Trunk Railway Company to erect and maintain an electric alarm bell at the crossing of their tracks with the Miller Road, near Otterburn station, and to flag all regular trains over the crossing at Mill street, in Swartz Creek, Genesee county, Michigan.

37. June 5. To George H. Murdock, Jr., of Benton Harbor, Michigan, and A. A. Patterson, Jr., president of the Milwaukee, Benton Harbor & Columbus Railway Company.

Special order requiring the Milwaukee, Benton Harbor & Columbus Railway Company to construct fences between their right of way and the property of William F. Williams, in Berrien county, Michigan.

38. June 8. To George H. Murdock, Jr., of Benton Harbor, Michigan, and A. A. Patterson, Jr., president of the Milwaukee, Benton Harbor & Columbus Railway Company.

Special order requiring the M. B. H. & C. Ry. Co. to construct fences between their right of way and the property of T. F. Wall, in Berrien county, Michigan.

39. June 8. To George H. Murdock, Jr., of Benton Harbor, Michigan, and A. A. Patterson, Jr., president of the Milwaukee, Benton Harbor & Columbus Railway Company.

Special order requiring the Milwaukee, Benton Harbor & Columbus Railway Company to construct fences between their right of way and the property of George Ewalt, in Berrien county, Michigan.

40. June 9. To George H. Murdock, Jr., of Benton Harbor, Michigan, and A. A. Patterson, Jr., president of the Milwaukee, Benton Harbor & Columbus Railway Company.

Special order requiring the Milwaukee, Benton Harbor & Columbus Railway Company to construct fences between their right of way and the property of Elmore C. Spaulding, in Berrien county, Michigan.

41. June 9. To John Winter, president of the Detroit & Lake Orion Railway Company, and William Cotter, superintendent of the Grand Trunk Railway Company.

Special order approving crossing of the D. & L. O. Ry. Company over tracks of the G. T. Ry. on Main street, Rochester, and on Fourth street, Royal Oak, in the county of Oakland, Michigan.

42. June 14. To John Winter, president of the Detroit & Lake Orion Railway Company, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order approving crossing of the Detroit & Lake Orion Railway Company over tracks of the Michigan Central Railroad (Bay City Division) on Main street, Rochester, Michigan.

43. June 15. To Harrison Nash, of Berrien Springs, Michigan, and A. A. Patterson, Jr., general manager of the Milwaukee, Benton Harbor & Columbus Railway Company.

Special order for the construction of line fences between the M. B. H. & C. Ry. Company's right of way and the property of Harrison Nash, in the township of Oronoko, Berrien county, Michigan.

44. June 21. To Charles M. Heald, general manager of the Detroit, Grand Rapids & Western Railroad Company, and Hon. George R. Perry, mayor of the city of Grand Rapids, Michigan.

Special order requiring the Detroit, Grand Rapids & Western Railroad Company to station a flagman at the crossing of their tracks with Madison avenue, in the city of Grand Rapids, Mich.

45. June 21. To William Cotter, superintendent, Grand Trunk Railway, P. S. Blodgett, general superintendent, Lake Shore & Michigan Southern Railway, and John A. Schmid, city clerk of the city of Detroit, Michigan.

Special order requiring the Detroit, Grand Haven & Milwaukee Railway Company and the Lake Shore & Michigan Southern Railway Company to construct and maintain safety gates at the crossing of their tracks with Forest avenue, in the city of Detroit, Michigan.

46. June 21. To S. L. May, of the city of Detroit, and James G. Tucker, receiver of the Detroit & River St. Clair Railway Company, Mt. Clemens, Michigan.

Special order approving crossings of the Detroit & Northern Railway Company over the tracks of the Detroit & River St. Clair Railway Company near New Baltimore, and in Marine City, Michigan.

47. June 23. To F. E. Dewey, general manager of the Detroit & Lima Northern Railway Company, and William C. Hopper, manager of the Wyandotte & Detroit River Railway Company.

Special order approving proposed spur track of the D. & L. N. Ry. Co., leading to Michigan Alkali Works, across the tracks of the W. & D. R. Ry. Co. on Biddle avenue, in the township of Ecorse, Wayne county, Michigan.

48. June 27. To William Cotter, superintendent of the Grand Trunk Railway Company, and Frank Heacox, of Vickeryville, Michigan.

Special order for station facilities at the village of Vickeryville, on the line of the T. S. & M. Ry. Co., in Montcalm county, Michigan.

49. June 27. To Mr. James C. Mustard, city clerk of Ludington, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order for additional protection at the Washington and James street crossings of the F. & P. M. R. R., at Ludington, Michigan.

50. June 27. To J. W. Dunlop, city clerk, of Clare, Michigan, and H. W. Ashley, general manager of the Ann Arbor Railroad Company.

Special order for the repair and reconstruction of highway crossing, known as the county line road, with tracks of the Ann Arbor Railroad, at Clare, Michigan.

51. June 28. To W. R. Morrison, assistant general manager of the Bay Cities Consolidated Railway Company, and A. Torrey, chief engineer of the Michigan Central Railroad Company.

Special order for approval of crossing of the tracks of the M. C. R. R. and the B. C. C. Ry. at West Bay City, Michigan.

52. July 1. To John M. Arnold, township clerk of Monitor, Bay county, Michigan, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order for highway crossing over the tracks of the M. C. R. R. in the township of Monitor, Bay county, Michigan.

53. July 6. To Charles M. Heald, president of the Detroit, Grand Rapids & Western Railroad Company, and Hon. George R. Perry, mayor of the city of Grand Rapids, Michigan.

Special order requiring the Detroit, Grand Rapids & Western Railroad Company to station a flagman at the Hall street crossing of their tracks in the city of Grand Rapids, Michigan.

54. July 12. To R. W. Hemphill, secretary and treasurer of the Ypsilanti and Saline Electric Railway, and H. W. Ashley, general manager of the Ann Arbor Railroad Company.

Special order approving proposed line of the Y. & S. E. Ry. over tracks of the A. A. R. R. Co. south of Pittsfield Junction, Washtenaw county, Michigan.

55. July 15. To A. W. Stone, village trustee, Scottville, Michigan, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order requiring the Flint & Pere Marquette Railroad Company to construct and maintain an electric alarm bell at the intersection of their tracks and Main street, in the village of Scottville, Michigan.

56. July 15. To Charles H. Bostick, of Manton, Michigan, and J. H. P. Hughart, general manager of the Grand Rapids & Indiana Railway Company.

Special order for the replanking of Main street, on the G. R. & I. Ry., in the village of Manton, Michigan.

57. July 18. To John A. Schmid, city clerk, Detroit, Michigan, and John E. Smith, superintendent of Union Station and Terminal Association, Detroit, Michigan.

Special order requiring the Union Station & Terminal Association to construct and maintain an electric alarm bell at the Campbell avenue crossing of their tracks in the city of Detroit, Michigan.

58. July 21. To Thomas L. Lamoreaux, Howell, Michigan, and H. W. Ashley, general manager of the Ann Arbor Railroad Company.

Special order requiring the Ann Arbor Railroad Company to construct line fences between its right of way and the property of Thomas L. Lamoreaux, in the Township of Howell, Livingston County, Michigan.

59. July 22. To Joseph Allair, highway commissioner, Cheboygan, Michigan, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order for highway crossing over the tracks of the M. C. R. R. in the Township of Beaugrand, Cheboygan county, Michigan.

60. July 24. To J. Ramsey, Jr., general manager of the Wabash Railroad, and J. B. Flanders, general superintendent of the Cincinnati Northern Railroad Company.

Special order modifying order issued by this department on March 31st, 1899, for mechanical protection at the crossing of the two roads, at Britton, Lenawee county, Michigan.

61. July 24. To J. Ramsey, Jr., general manager of the Wabash Railroad Company, and H. W. Ashley, general manager of the Ann Arbor, Railroad Company.

Special order modifying order issued by this department on March 31st, 1899, for mechanical protection at the crossing of the two roads, at Milan, Monroe county, Michigan.

62. Aug. 2. To J. A. Russell, president of the Detroit, Plymouth & Northville Railway Company, and Charles M. Heald, president of the Detroit, Grand Rapids & Western Railroad Company.

Special order approving crossing of the two roads on Mill street, in the village of Plymouth, Wayne county, Michigan.

63. Aug. 5. To J. A. Russell, president of the Detroit Plymouth & Northville Railway Company, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order approving crossings of the two roads on Ann Arbor and Main streets, in the village of Plymouth, Wayne county, Michigan.

64. Aug. 16. To Morley Shotwell, of Concord, Michigan, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order requiring the Michigan Central Railroad Company, (Air Line Division) to construct and maintain an electric alarm bell at the intersection of its tracks with Main street, in the village of Concord, Jackson county, Michigan.

65. Aug. 17. To James Maher, highway commissioner, Gibson township, Bay county, Michigan, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order for a highway crossing over tracks of the Michigan Central Railroad Company, (Saginaw Bay & Northwestern Division), about two miles north of Mt. Forest, in the township of Gibson, Bay county, Michigan.

66. Aug. 17. To James Maher, highway commissioner, Gibson township, Bay county, Michigan, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order for a highway crossing over tracks of the Michigan Central Railroad Company, (Saginaw Bay & Northwestern Division), about one-quarter mile north of Bentley, in the township of Gibson, Bay county, Michigan.

67. Aug. 24. To E. A. Holmes, highway commissioner, Sheridan township, Mason county, Michigan, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order for highway crossing over tracks of the F. & P. M. R. R. Co., in the township of Sheridan, Mason county, Michigan.

68. Aug. 31. To John W. Dunlop, of Clare, Michigan, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order requiring the Flint & Pere Marquette Railroad Company to construct line fences between its right of way and the property of John W. Dunlop, in the township of Grant, Clare county, Michigan.

69. Sept. 1. To Alexander W. Goodell, of the township of Ecorse, Wayne county, Michigan, and F. E. Dewey, general manager of the Detroit & Lima Northern Railway Company.

Special order requiring the D. & L. N. Ry. Co. to construct line fences between its right of way and the property of Alexander W. Goodell, in the township of Ecorse, Wayne county, Michigan.

70. Sept. 1. To Elijah J. Goodell, of the township of Ecorse, Wayne county, Michigan, and F. E. Dewey, general manager of the Detroit & Lima Northern Railway Company.

Special order requiring the D. & L. N. Ry. Co. to construct line fences between its right of way and the property of Elijah J. Goodell, in the township of Ecorse, Wayne county, Michigan.

71. Sept. 1. To Antoine LeBlanc, of the township of Ecorse, Wayne county, Michigan, and F. E. Dewey, general manager of the Detroit & Lima Northern Railway Company.

Special order requiring the D. & L. N. Ry. Co. to construct line fences between its right of way and the property of Antoine LeBlanc, in the township of Ecorse, Wayne county, Michigan.

72. Sept. 1. To C. F. Goodell, of the township of Ecorse, Wayne county Michigan, and E. F. Dewey, general manager of the Detroit & Lima Northern Railway Company.

Special order requiring the D. & L. N. Ry. Co. to construct line fences between its right of way and the property of C. F. Goodell, in the township of Ecorse, Wayne county, Michigan.

73. Sept. 1. To G. R. Goodell, of the township of Ecorse, Wayne county, Michigan, and F. E. Dewey, general manager of the Detroit & Lima Northern Railway Company.

Special order requiring the D. & L. N. Ry. Co. to construct line fences between its right of way and the property of G. R. Goodell, in the township of Ecorse, Wayne county, Michigan.

74. Sept. 8. To John B. Chaddock, prosecuting attorney, Ionia, Michigan, and Charles M. Heald, president of the Detroit, Grand Rapids & Western Railroad Company.

Special order requiring the Detroit, Grand Rapids & Western Railroad Company to construct and maintain an automatic electric alarm bell at the Hudson crossing of its tracks near the village of Lyons, Ionia county, Michigan.

75. Sept. 8. To N. W. Newkirk, of Central Lake, Michigan, and Charles M. Heald, president of the Chicago & West Michigan Railway Company.

Special order requiring the Chicago & West Michigan Railway Company to construct and maintain an electric alarm bell about midway

between Maple and State streets, in the village of Central Lake, Antrim county, Michigan.

76. Sept. 16. To Charles H. Bostick, of Manton, Michigan, and J. H. P. Hughart, general manager of the Grand Rapids & Indiana Railway Company.

Special order requiring the Grand Rapids & Indiana Railway Company to construct and maintain an electric alarm bell at the intersection of its tracks and Main street, in the village of Manton, Wexford county, Michigan.

77. Sept. 25. To C. W. Sessions, city attorney, Muskegon, Michigan, and William Cotter, superintendent of the Toledo, Saginaw & Muskegon Railway, and J. H. P. Hughart, general manager of the Muskegon, Grand Rapids & Indiana Railroad Company.

Special order requiring the two companies to construct safety gates at the crossing of their tracks with Beidler street, in the city of Muskegon, Michigan.

78. Sept. 26. To F. E. Dewey, general manager of the Detroit & Lima Northern Railway Company, and A. B. DuPont, general manager of the Wyandotte & Detroit River Railway Company.

Special order for approval of interlocking switch and signal system at crossing of the two roads in the townships of Ecorse and Monguagon, in the county of Wayne, State of Michigan.

79. Oct. 10. To W. G. Collins, general superintendent of the Chicago, Milwaukee & St. Paul Railway Company.

Special order requiring the Chicago, Milwaukee & St. Paul Railway Company to remove the "Spear Heaters" from its passenger cars, and replace the same with some system of heating which complies with the requirements of the law, and which has been approved by the Commissioner of Railroads.

80. Oct. 10. To James A. Randall, secretary, Detroit & Northwestern Railway Company, and William Cotter, superintendent of the Chicago & Grand Trunk Railway Company.

Special order approving crossing of the Detroit & Northwestern Railway Company, over tracks of the Chicago & Grand Trunk Railway. (Air Line Division), at Orchard Lake, in the township of West Bloomfield, Oakland county, Michigan.

81. Oct. 12. To H. W. Ashley, general manager of the Ann Arbor Railroad Company, and Charles M. Heald, president of the Detroit, Grand Rapids & Western Railroad Company.

Special order requiring the Ann Arbor Railroad Company to construct standard detector bars on both sides of the tracks of the Detroit, Grand Rapids & Western Railroad Company, at Howell Junction, Michigan.

82. Oct. 12. To J. J. Coleman, traffic manager of the Wisconsin & Michigan Railway Company.

Special order requiring the Wisconsin & Michigan Railway Company to remove the "Winslow Heaters" from its passenger cars, and to replace the same with some system of heating which complies with the requirements of the law, and which has been approved by the commissioner of railroads.

83. Oct. 12. To H. A. St. John, Auditor of the Munising Railway Company.

Special order requiring the Munising Railway Company to remove the stoves from its passenger cars, and to replace the same with some system of heating which complies with the requirements of the law and which has been approved by the commissioner of railroads.

84. Oct. 13. To J. H. P. Hughart, general manager of the Grand Rapids & Indiana Railway Company.

Special order requiring the Grand Rapids & Indiana Railway Company to remove the stoves from its passenger cars, and to replace the same with some system of heating which complies with the requirements of the law, which has been approved by the commissioner of railroads.

85. Oct. 20. To E. X. Hastings, superintendent, Chicago, Milwaukee & St. Paul Railway Company, and George H. Houser, of Sidnaw, Michigan.

Special order requiring the Chicago, Milwaukee & St. Paul Railway Company to station a flagman at the crossing of its tracks with Erie street, in the village of Sidnaw, Houghton county, Michigan.

86. Oct. 27. To S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order requiring the Flint & Pere Marquette Railroad Company to remove the "Condon Car Heaters" from its passenger cars, and to replace the same with some system of heating which complies with the requirements of the law, and which has been approved by the commissioner of railroads.

87. Oct. 27. To J. B. Flanders, superintendent of the Cincinnati Northern Railroad Company.

Special order requiring the Cincinnati Northern Railroad Company to remove the stoves from its passenger cars and to replace the same with some system of heating which complies with the requirements of the law, and which has been approved by the Commissioner of Railroads.

88. Nov. 1. To John A. Russell, president of the Detroit, Plymouth & Northville Railway Company, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order approving undergrade crossing of the tracks of the two roads, near Northville, Michigan.

89. Nov. 2. To James A. Randall, secretary of the Detroit & Northwestern Railway Company, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order approving over-head crossing of the two roads at Northville, Michigan.

90. Nov. 3. To W. H. Lockerby, of Quincy, Michigan, and P. S. Blodgett, general superintendent of the Lake Shore & Michigan Southern Railway Company.

Special order requiring the Lake Shore & Michigan Southern Railway Company to maintain safety gates at the Main street crossing of its tracks in the village of Quincy, Michigan.

91. Nov. 4. To Louis Sands, of Manistee, Michigan, and J. K. V. Agnew, general superintendent of the Chicago & West Michigan Railway Company.

Special order approving crossing of Louis Sands' logging railroad with the line of the Grand Rapids, Kalkaska & Southeastern Railroad, in Kalkaska county, Michigan.

92. Nov. 11. To Frank Loeffler, highway commissioner, DeLoughary, Michigan, and J. M. Whitman, general manager of the Chicago & Northwestern Railway Company.

Special order for a highway crossing over the tracks of the C. & N. W. Ry. Co., in the township of Spaulding, Menominee county, Michigan.

93. Nov. 14. To H. B. Ledyard, president of the Michigan Central Railroad Company, and L. N. Burke, city attorney, Kalamazoo, Michigan.

Special order requiring the M. C. R. R. Co. to station a flagman at the Cooley street crossing of its tracks in the city of Kalamazoo.

94. Nov. 16. To A. B. DuPont, general manager of the Detroit, Fort Wayne & Belle Isle Railway Company and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order for the reconstruction of crossings of the tracks of the D. F. W. & B. I. Ry. Co., with main line and side track of the Lake Shore & Michigan Southern Railway, at Delray, Wayne county, Michigan.

95. Nov. 16. To A. B. DuPont, general manager of the Detroit, Fort Wayne & Belle Isle Railway Company, and P. S. Blodgett, general superintendent of the Lake Shore & Michigan Southern Railway Company.

Special order for the reconstruction of crossings of the tracks of the D. F. W. & B. I. Ry. Co., with main line and side track of the Lake Shore & Michigan Southern Railway, at Delray, Wayne county, Michigan.

96. Nov. 16. To A. B. DuPont, general manager of the Detroit, Fort Wayne & Belle Isle Railway Company, and E. A. Gould, division superintendent of the Wabash Railroad Company.

Special order for the reconstruction of crossings of the D., F. W. & B. I. Ry. Co., with side tracks of the Wabash Railroad Company, at Delray, Wayne county, Michigan.

97. Nov. 17. To A. R. Moore, president of the Escanaba Electric St. Railway Company, and J. W. Whitman, general manager of the Chicago & Northwestern Railway Company.

Special order approving the crossing of the Escanaba Electric Street Railway Company's tracks with the Escanaba, Iron Mountain & Western Railroad Company's tracks on Schlesinger avenue, in the city of Escanaba, Michigan.

98. Nov. 17. To A. R. Moore, president of the Escanaba Electric Street Railway Company, and W. E. Wells, superintendent of the Escanaba & Lake Superior Railroad Company.

Special order approving crossing of the two roads at Wells, Michigan.

99. Nov. 17. To L. N. Burke, city attorney, Kalamazoo, Michigan, and P. S. Blodgett, general superintendent of the Lake Shore & Michigan Southern Railway Company.

Special order requiring the L. S. & M. S. Ry. Co. to station and maintain an electric alarm bell at the Grace street crossing of their tracks, in the city of Kalamazoo, Michigan.

100. Nov. 18. To L. N. Burke, city attorney, Kalamazoo, Michigan, and P. S. Blodgett, general superintendent of the Lake Shore & Michigan Southern Railway Company.

Special order requiring the L. S. & M. S. Ry. Co. to station and maintain a flagman at the Water and Porter street crossings of their tracks, in the city of Kalamazoo, Michigan.

101. Nov. 21. To C. J. Reilly, president of the Rapid Railway Company, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order approving over-head crossing of the Port Huron, St. Clair & Marine City Railway Company, over the tracks of the Michigan, Midland & Canada Railway, in the township of East China, St. Clair county, Michigan.

102. Nov. 23. To John Winter, president of the Detroit, Rochester, Romeo & Lake Orion Railway Company, and William Cotter, superintendent of the Chicago & Grand Trunk Railway Company.

Special order approving half interlocking switch and signal system at crossing of the Detroit, Rochester, Romeo & Lake Orion Railway and the Detroit, Grand Haven & Milwaukee Railway, on Fourth street, in the village of Royal Oak, Michigan.

103. Nov. 23. To John Winter, president of the Detroit, Rochester, Romeo & Lake Orion Railway Company, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order permitting the Detroit, Rochester, Romeo & Lake Orion Railway Company to cross the tracks of the M. C. R. R. Co., (Bay City Division), on Main street, in the village of Rochester, temporarily, pending the completion of interlocking appliance at the said crossing.

104. Nov. 25. To James Cluley, highway commissioners of Calkinsville, Michigan, and S. T. Crapo, general manager of the Flint & Pere Marquette Railroad Company.

Special order for highway crossing over the tracks of the F. & P. M. R. R. Co., in the township of Denver, Isabella county, Michigan.

105. Nov. 27. To J. W. Spaulding, highway commissioner, Bellevue, Michigan, and William Cotter, superintendent of the Chicago & Grand Trunk Railway Company.

Special order requiring the Chicago & Grand Trunk Railway Company to erect and maintain an electric alarm bell at the intersection of its tracks with the Battle Creek county road, in the village of Bellevue, Michigan.

106. Nov. 27. To D. H. Patterson, general manager of the South Haven & Eastern Railroad Company, and Charles M. Heald, president of the Chicago & West Michigan Railway Company.

Special order approving half interlocking switch and signal system at crossing of the two roads, at Hartford, Van Buren county, Michigan.

107. Nov. 29. To George Ewalt, and A. A. Patterson, Jr., president of the Milwaukee, Benton Harbor & Columbus Railway Company.

Special order requiring the Milwaukee, Benton Harbor & Columbus Railway Company to construct line fences between its right of way and the property of George Ewalt, in Berrien county, Michigan.

108. Nov. 29. To Harrison Nash, and A. A. Patterson, Jr., president of the Milwaukee, Benton Harbor & Columbus Railway Company.

Special order requiring the Milwaukee, Benton Harbor & Columbus Railway Company to construct line fences between its right of way and the property of Harrison Nash, in Berrien county, Michigan.

109. Nov. 29. Elmore C. Spaulding, and A. A. Patterson, Jr., president of the Milwaukee, Benton Harbor & Columbus Railway Company.

Special order requiring the Milwaukee, Benton Harbor & Columbus

Railway Company to construct line fences between its right of way and the property of Elmore C. Spaulding, in Berrien county, Michigan.

110. Dec. 4. To F. E. Rice, highway commissioner, of Millington, Michigan, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order for highway crossing over the tracks of the Michigan Central Railroad Company, (Bay City Division), in the township of Millington, Tuscola county, Michigan.

111. Dec. 5. To L. N. Burke, city attorney, of Kalamazoo, Michigan, and P. S. Blodgett, superintendent of the Lake Shore & Michigan Southern Railway Company.

Special order modifying the order issued from this department on November 18th, requiring the L. S. & M. S. Ry. Co. to station a flagman at the Water and Porter street crossings of its line in the city of Kalamazoo, Michigan.

112. Dec. 5. To George P. Moog, village clerk, Delray, Michigan, and H. B. Ledyard, president of the Michigan Central Railroad Company.

Special order requiring the M. C. R. R. Co. to station a flagman at the West End avenue crossing of its line, in the village of Delray, Wayne county, Michigan.

113. Dec. 16. To Henry H. Osgood, of Holloway, Michigan, and E. A. Gould, division superintendent of the Wabash Railroad Company.

Special order requiring the Wabash Railroad Company to station a flagman at the main highway crossing in the village of Holloway, Lenawee county, Michigan.

114. Dec. 18. To L. N. Burke, city attorney, Kalamazoo, Michigan, and J. H. P. Hughart, general manager of the Grand Rapids & Indiana Railway Company.

Special order requiring the Grand Rapids & Indiana Railway Company to construct and maintain an electric alarm bell at the Kalamazoo avenue and Water street crossings, in the city of Kalamazoo, Michigan.

WIRE PERMITS ISSUED SINCE LAST REPORT.

December 31, 1898. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Michigan Central and the Detroit, Toledo & Milwaukee Railroad Companies at Marshall, Michigan.

January 2, 1899. Special permit issued to J. Heeringa of East Saugatuck, Michigan, to string one wire over the tracks of the Chicago & West Michigan Railway Company at East Saugatuck, Michigan.

January 2. Special permit issued to William H. Chase of Delton, Barry county, Michigan, to string one wire over the tracks of the Chicago Kalamazoo & Saginaw Railway Company at Delton, Barry county, Michigan.

January 3. Special permit issued to the Northern Telephone Company to string forty wires over the tracks of the Manistee & Northeastern Railroad Company at Bay and Union streets and thirty wires at Bay street, Traverse City, Michigan.

January 4. Special permit issued to the Citizens Telephone Company to string six telephone wires over the tracks of the Chicago & West Michigan Railway Company at points between Casnovia and Newaygo, counties of Kent and Newaygo, Michigan.

January 6. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Michigan Central Railroad Company at Niles, Michigan.

January 7. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Grand Trunk Railway System at Drayton Plains, Oakland county, Michigan.

January 9. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Foot street, Charlotte, Michigan.

January 13. Special permit issued to the Valley Telephone Company to string ten wires over the tracks of the Grand Trunk Railway System at Smith street, Flint, Michigan.

January 16. Special permit issued to Charles Griffith of La Grange, Indiana, to string a telephone line over the tracks of the Lake Shore & Michigan Southern Railway Company at Klinger Lake, St. Joseph county, Michigan.

January 17. Special permit issued to the New State Telephone Company to string eight wires over the tracks of the Flint & Pere Marquette Railroad Company at Thornton Road, in the county of St. Clair, Michigan.

January 18. Special permit issued to the New State Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company on Main street, Rochester, Oakland county, Michigan.

January 20. Special permit issued to the Michigan Telephone Company to string ten wires over the tracks of the Michigan Central Railroad Company at South Jackson, Michigan.

January 20. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Ann Arbor Railroad Company near station at Mt. Pleasant, Michigan.

January 20. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Schoolcraft, Michigan.

January 25. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Grand Trunk Railway System at Stockbridge, Ingham county, Michigan.

January 31. Special permit issued to E. R. Corley of Munith, Jackson county, Michigan, to string a telephone line over the tracks of the Grand Trunk Railway System at Munith and Crafts crossing, Michigan.

February 2. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Grand Rapids & Indiana Railway Company at Mills street, Kalamazoo, Michigan.

February 2. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Grand Trunk Railway System at Depot street, Ionia Michigan.

February 2. Special permit issued to the Michigan Telephone Company to string ten wires over the tracks of the Grand Trunk Railway System at Marshall, East Main, South McCamly, Hall and Beach streets, Battle Creek, Michigan.

February 2. Special permit issued to the Michigan Telephone Company to string ten wires over the tracks of the Michigan Central Railroad Company at McCamly, Canal and Marshall streets, Battle Creek, Michigan.

February 4. Special permit issued to Kressler & Dahlman of Rochester, Michigan, to string two wires over the tracks of the Michigan Central Railroad Company at Main street, Rochester, Michigan.

February 7. Special permit issued to A. D. Grimes of Munith, Michigan, to string two wires over the tracks of the Grand Trunk Railway System at Munith station, Michigan.

February 8. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Burr Oak street, Albion, Michigan.

February 10. Special permit issued to the Michigan Telephone Company to string wires over the tracks of the Flint & Pere Marquette Railroad Company at West Twelfth street, Flint, Michigan.

February 10. Special permit issued to the Lansing Electric Light Company to string two wires over the tracks of the Detroit, Grand Rapids & Western Railroad Company at Larch street, Lansing, Michigan.

February 14. Special permit issued to the City of Kalamazoo to string electric light wires over tracks of the Lake Shore & Michigan Southern Railway Company at Pitcher street, Kalamazoo, Michigan.

February 15. Special permit issued to the Bryant Paper Company of Kalamazoo, to string one electric light wire over the tracks of the Lake Shore & Michigan Southern Railway Company at Kalamazoo, Michigan.

February 16. Special permit issued to the Kibbie Telephone Company to string four wires over the tracks of the Michigan Central Railroad Company at Main street in the Village of Lacota, Van Buren county, Michigan.

February 18. Special permit issued to the city of Sturgis to string four electric light wires over the tracks of the Grand Rapids & Indiana Railway Company at West and Chicago streets, Sturgis, Michigan.

February 18. Special permit issued to the city of Sturgis to string electric light wires over the tracks of the Lake Shore & Michigan Southern Railway Company at West, Chicago and Nottawa streets, Sturgis, Michigan.

February 27. Special permit issued to the Eaton County Telephone Company to string twenty wires over the tracks of the Michigan Central Railroad Company at Charlotte, Michigan.

February 27. Special permit issued to the village of Decatur to string four electric light wires over the tracks of the Michigan Central Railroad Company at Decatur, Michigan.

March 3. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Eliza street, Schoolcraft, Michigan.

March 3. Special permit issued to the Michigan Telephone Company to string twenty wires over the tracks of the Michigan Central Railroad Company at Jackson and Van Buren, Mechanic and Clinton, and Main streets, Jackson, Michigan.

March 3. Special permit issued to the Northern Telephone Company to string six telephone wires over the tracks of the Chicago & West

Michigan Railway Company at points between Traverse City and Acme, Michigan.

March 9. Special permit issued to the Michigan Telephone Company to string wires over the tracks of the Flint & Pere Marquette Railroad Company at one and one-half miles north of Mt. Pleasant, Michigan.

March 10. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Michigan Central Railroad Company at Partridge street, Buchanan, Michigan.

March 16. Special permit issued to City Lighting Plant of Escanaba, Michigan, to string one electric light wire over the tracks of the Chicago & Northwestern Railway Company on Stephenson avenue, Escanaba, Michigan.

March 17. Special permit issued to Thomas Muir & Son of Detroit, Michigan, to string two electric light wires over the tracks of the Grand Trunk Railway System at Royal Oak, Michigan.

March 20. Special permit issued to the Kibbie Telephone Company to string six wires at Berlamont, twelve at Bloomingdale, and eight at Gobleville, Van Buren county, Michigan, over the tracks of the Michigan Central Railroad Company.

March 23. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Cincinnati Northern Railroad Company at Burchard street, Battle Creek, Michigan.

March 27. Special permit issued to the City of Grand Rapids to string one wire over the tracks of the Grand Trunk Railway System at Broadway and Elizabeth at North Canal, Matilda and Clancy, and Quimby and Taylor streets Grand Rapids, Michigan.

March 28. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Michigan Central Railroad Company at Buchanan, Michigan.

March 28. Special permit issued to the Western Union Telegraph Company to string four wires over the tracks of the Chicago & West Michigan Railway Company at Grand Rapids, Michigan.

March 29. Special permit issued to the Western Union Telegraph Company to string four wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Grand Rapids, Michigan.

March 29. Special permit issued to the Sibley Quarry Company to string four wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Sibley, Michigan.

April 1. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Chicago & West Michigan Railway Company near Schuyler street, Muskegon, Michigan.

April 3. Special permit issued to the New State Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at Francisco and Michigan Center, Michigan.

April 7. Special permit issued to the Lansing Telephone Exchange to string wires over the tracks of the Lake Shore & Michigan Southern Railway Company in Lansing Lumber Company's yard, Lansing, Michigan.

April 7. Special permit issued to A. J. Hall of Mason, Michigan to string one wire over the tracks of the Michigan Central Railroad Company on Columbia street, Mason, Michigan.

April 14. Special permit issued to the Michigan Telephone Company

to string four wires over the tracks of the Grand Rapids & Indiana Railway Company on Harris street, Cadillac, Michigan.

April 14. Special permit issued to the Michigan Telephone Company to string ten wires over the tracks of the Ann Arbor Railroad Company on Liberty street, Ann Arbor, Michigan.

April 17. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Ann Arbor Railroad Company at Dundee, Michigan.

April 18. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Flint & Pere Marquette Railroad Company at Wells street, Croswell, Michigan.

April 18. Special permit issued to A. J. Hostetler of Shipshewana, Indiana, to string one wire over the tracks of the Lake Shore & Michigan Southern Railway Company one mile south of Sturgis, Michigan.

April 18. Special permit issued to the Village of Portland to string six electric light wires at Lyons road, at Maynard road crossing and two electric light wires south of depot over the tracks of the Detroit Grand Rapids & Western Railroad Company at Portland, Michigan.

April 19. Special permit issued to the Kalamazoo Valley Electric Company to string five electric light wires over the tracks of the Michigan Central Railroad Company in the City of Kalamazoo, Michigan.

April 20. Special permit issued to A. J. Hostetler of Shipshewana, Indiana, to string one telephone wire over the tracks of the Lake Shore & Michigan Southern Railway Company east of Klinger Lake station, Michigan.

April 22. Special permit issued to the Withington & Root Telephone Company to string one telephone wire over the tracks of the Grand Trunk Railway System at Roots, Michigan.

April 22. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Lake Shore & Michigan Southern Railway Company at State street, Three Rivers, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string ten wires over the tracks of the Michigan Central Railroad Company at Michigan avenue between Hubbard and LaSalle avenues, Detroit, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Liberty street, Jackson, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at Elm avenue, Jackson, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Wildwood avenue near Ames Dean Factory, Jackson, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Ames Dean Factory, Jackson, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Marshall road, one mile southwest of Marengo, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Com-

pany at Marshall and Albion road, two miles west of Albion, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Superior street, Albion, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Parma town line, one and one-quarter miles west of Parma, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at Main Street, Chelsea, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Marshall road, one-half mile east of Battle Creek, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string one cable over the tracks of the Michigan Central Railroad Company at Gratiot avenue, Michigan avenue and Scotten avenue, Detroit, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Lake Shore & Michigan Southern Railway Company at East Main street, Kalamazoo, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Milwaukee street, Jackson, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Chicago, Kalamazoo & Saginaw Railway Company at East Main street, Kalamazoo, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string ten wires over the tracks of the Lake Shore & Michigan Southern and Grand Trunk Railway Companies at Michigan avenue, Detroit, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Albion street and at Gales factory, Albion, Michigan.

April 24. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Grand Rapids & Indiana Railway Company at East Main street, Kalamazoo, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at West Main street, Battle Creek, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at Marshall street, Battle Creek, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string twelve wires over the tracks of the Michigan Central Railroad Company at Mill street, Jackson, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at crossing two and one-half miles west of Chelsea, Michigan.

April 25. Special permit issued to the Michigan Telephone Company

to string six wires over the tracks of the Michigan Central Railroad Company at Liberty street, Jackson, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at Hayes street, Chelsea, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Paroa road, three miles west of Jackson, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at crossing at fair grounds, Chelsea, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Malleable Iron Works, Albion, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at crossing east of Parma, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Parma road, one and one-quarter miles east of Parma, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at Kalamazoo road, three miles west of Battle Creek, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at East Main street, Kalamazoo, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company west of Comstock, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company west of Chelsea, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string wires over the tracks of the Michigan Central Railroad Company at Michigan Centre, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at Page avenue, Jackson, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string ten wires over the tracks of the Lake Shore & Michigan Southern Railway Company at River road, Ypsilanti, Michigan.

April 25. Special permit issued to the Michigan Telephone Company to string ten wires over the tracks of the Lake Shore & Michigan Southern Railway Company near crossing of Huron river, Ypsilanti, Michigan.

April 26. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company east of depot at Chelsea, Michigan.

April 26. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company at crossing three miles east of Chelsea, Michigan.

April 26. Special permit issued to the Michigan Telephone Company

to string six wires over the tracks of the Michigan Central Railroad Company on Liberty street at the foot of Wilson, Jackson, Michigan.

April 28. Special permit issued to the Michigan Telephone Company to string wires over the tracks of the Flint & Pere Marquette Railroad Company at Miller road, Michigan avenue, and at the Wayne gravel road in the county of Wayne, Michigan.

April 28. Special permit issued to A. J. Hostetler of Shipshewana, Indiana, to string one telephone wire over the tracks of the Grand Rapids & Indiana Railway Company one mile south of Sturgis, Michigan.

April 29. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Michigan Central Railroad Company three miles west of Albion, Michigan.

April 29. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Detroit, Grand Rapids & Western Railroad and the Grand Trunk Railway Companies, at South Jefferson street, Ionia, Michigan.

May 1. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Michigan Central Railroad Company at Newburg Mill crossing, east of Albion, and between Day avenue and Oak street at Buchanan, Michigan.

May 2. Special permit issued to the Michigan Telephone Company to string wires over the tracks of the Lake Shore & Michigan Southern Railway Company west of Quincy, Michigan.

May 2. Special permit issued to the Citizens Telephone Company to string six wires over the tracks of the Michigan Central Railroad Company at Morgans, Nashville and Vermontville, Michigan.

May 3. Special permit issued to the Kibbie Telephone Company to string one wire over the tracks of the Chicago & West Michigan Railway Company at Broadville, Van Buren county, Michigan.

May 4. Special permit issued to the Schoolcraft Telephone Company to string wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Eliza street, Schoolcraft, Michigan.

May 4. Special permit issued to the Schoolcraft Telephone Company to string two wires over the tracks of the Chicago & Grand Trunk Railway Company at Duncan street, Schoolcraft, Michigan.

May 6. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Grand Rapids & Indiana Railway Company at Baldwin street, Big Rapids, Michigan.

May 8. Special permit issued to the Owosso Telephone Company to string two wires over the tracks of the Grand Trunk Railway System at Shiawassee street, Owosso, Michigan.

May 11. Special permit issued to the Michigan Portland Cement Company to string one wire over the tracks of the Lake Shore & Michigan Southern Railway Company at factory of cement company in Coldwater, Michigan.

May 13. Special permit issued to the Michigan Telephone Company to string two telephone wires over the tracks of the Grand Trunk Railway Company at Armada, Michigan.

May 13. Special permit issued to the Kalamazoo Valley Electric Company to string wires over the tracks of the Grand Rapids & Indiana Railway Company at the alley south of Kalamazoo Wagon Company, Kalamazoo, Michigan.

May 13. Special permit issued to the Michigan Telephone Company to string twenty telephone wires over the tracks of the Detroit, Grand Rapids & Western Railroad Company at Third street, Ionia, Michigan.

May 13. Special permit issued to the Montcalm County Telephone Association to string two wires two miles east of Vestaburg and two wires one-half mile east of Vestaburg, Michigan, over the tracks of the Detroit, Grand Rapids & Western Railroad Company.

May 13. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Michigan Central Railroad Company at alley between Bay avenue and Oak street, Buchanan, Michigan.

May 15. Special permit issued to the Michigan Telephone Company to string five wires over the tracks of the Michigan Central Railroad Company at Church street, Kalamazoo, Michigan.

May 15. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Michigan Central Railroad Company one mile west of Galesburg, Michigan.

May 15. Special permit issued to the Concord Telephone Company to string four wires ten rods east of depot at Concord; two wires on highway at Reynolds station; two wires on highway at North Concord; two wires on highway at Bath Mills, over the tracks of the Michigan Central Railroad Company.

May 15. Special permit issued to the Oceana Belt Telephone Company to string twelve wires at Colby street, and eight wires just south of depot, over side track, Whitehall, Michigan, over the tracks of the Chicago & West Michigan Railway Company.

May 15. Special permit issued to the Valley Telephone Company to string ten wires at Jefferson street between Morse and Sidney streets, Saginaw, E. S., Michigan, over the tracks of the Grand Trunk Railway System.

May 15. Special permit issued to the Valley Telephone Company to string ten wires at Elinor avenue, and ten wires between Morse and Sidney streets, Saginaw, Michigan, over the tracks of the Flint & Pere Marquette Railroad Company.

May 15. Special permit issued to the Valley Telephone Company to string ten wires on Kawkawlin road one-half mile south of Kawkawlin; ten wires on Kawkawlin road in Kawkawlin, and ten wires at Elinor street, Saginaw, W. S., Michigan, over the tracks of the Michigan Central Railroad Company.

May 15. Special permit issued to the Michigan Telephone Company to string one aerial cable over the tracks of the Detroit, Grand Rapids & Western Railroad Company at Hammond and Michigan avenues, at West Detroit, Michigan.

May 16. Special permit issued to Messrs. Sawyer & Havens of Bellevue, Michigan, to string two telephone wires over the tracks of the Grand Trunk Railway Company at Main street, Bellevue, Michigan.

May 17. Special permit issued to the Montcalm County Telephone Association to string one additional telephone wire over the tracks of the Detroit, Grand Rapids & Western Railroad Company at sixty rods west of the central part of the city of Alma, Michigan.

May 17. Special permit issued to the Eaton County Telephone Com-

pany to string six telephone wires over the tracks of the Grand Trunk Railway System at Adams street, Bellevue, Michigan.

May 17. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Church street, Clinton, Michigan.

May 17. Special permit issued to the Michigan Telephone Company to string two wires at the first railroad bridge west of Niles, on the Buchanan road, Michigan, over the tracks of the Michigan Central Railroad Company.

May 20. Special permit issued to the New State Telephone Company to string four wires over the tracks of the Grand Trunk Railway System at Bentley street, Lapeer, Michigan.

May 20. Special permit issued to the Michigan Telephone Company to string one 50-pair cable over the tracks of the Grand Trunk Railway System at Pike street, Pontiac, Michigan.

May 20. Special permit issued to the Michigan Telephone Company to string one 50-pair cable over the tracks of the Pontiac, Oxford & Northern Railroad Company at Willow avenue, Pontiac, Michigan.

May 20. Special permit issued to the Michigan Telephone Company to string five wires over the tracks of the Grand Rapids & Indiana Railway Company at Grace street, and two wires at Frank street, Kalamazoo, Michigan.

May 20. Special permit issued to the Michigan Telephone Company to string five wires at East Main street, and five wires at Portage street, Kalamazoo, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

May 20. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Grand Trunk Railway System at Joseph Campau avenue, Detroit, Michigan.

May 20. Special permit issued to the Michigan Telephone Company to string three telephone wires at North Burdick street, Kalamazoo; two telephone wires at East avenue, Kalamazoo; ten telephone wires at Fifth street, Niles; ten telephone wires at Ninth street, Niles; two telephone wires at Lincoln avenue, Niles; four telephone wires at Joseph Campau avenue, Detroit, Michigan, over the tracks of the Michigan Central Railroad Company.

May 22. Special permit issued to the Onsted & Brooklyn Toll Line to string wires over the tracks of the Lake Shore & Michigan Southern Railway Company at highway crossing just east of L. S. & M. S. depot, Brooklyn, Michigan.

May 23. Special permit issued to the Michigan Telephone Company to string four telephone wires at LaFayette street crossing between pumping station and Ranney Refrigerator Factory, Greenville, Michigan, over the tracks of the Detroit, Grand Rapids & Western Railroad Company.

May 23. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Grand Trunk Railway System (Toledo, Saginaw & Muskegon Division) at LaFayette street, Greenville, Michigan.

May 23. Special permit issued to the Michigan Telephone Company to string two wires at the Air Line and Main Line Divisions, one-half

mile east of the depot on the Barron Lake road, at Niles, Michigan, over the tracks of the Michigan Central Railroad Company.

May 23. Special permit issued to the New State Telephone Company to string forty wires at Keller avenue, Jackson, Michigan, over the tracks of the Grand Trunk Railway System.

May 24. Special permit issued to J. I. Cranmer, village engineer of Quincy, Michigan, to string wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Main, Church and West Chicago streets, in the village of Quincy, Michigan.

May 24. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Michigan Central Railroad Company at Court street, south of depot, on Mackinaw street about one and one-fourth miles north of depot, and on Mackinaw street about one-half mile north of depot, Cheboygan, Michigan.

May 25. Special permit issued to the Michigan Telephone Company to string twenty wires over the tracks of the Michigan Central Railroad Company on Liberty street between Park avenue and Park Place, on Liberty street between Pine and Park Place, on Elm avenue between Liberty and Page avenue, on Page avenue between Russell and Forbes streets, on High street between Francis and Milwaukee streets, on Francis street between Wall and High streets, Jackson, Michigan.

May 25. Special permit issued to the Michigan Telephone Company to string twenty wires on Milwaukee street between Mill and Liberty streets, and on Liberty street between Pine and Park Place, Jackson, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

May 25. Special permit issued to the Michigan Telephone Company to string eighteen wires at east end of Broadway bridge, Niles; eight wires at Front street crossing, Niles, and four wires on Berrien road near Linden Mills, Niles, Michigan, over the tracks of the Cleveland, Cincinnati, Chicago & St. Louis Railway Company.

May 25. Special permit issued to W. W. Fist of Addison, Michigan, to string one telephone wire over the tracks of the Cincinnati Northern Railroad Company three miles west of Addison, Michigan.

May 26. Special permit issued to the Concord Telephone Company to string a telephone line over the tracks of the Detroit, Toledo & Milwaukee Railroad Company at Wheelerton, Michigan.

May 26. Special permit issued to the North Parma Electric Telephone Exchange Company to string wires over the tracks of the Michigan Central Railroad Company at a point two hundred ten feet west from the highway crossing east from depot at village of Parma, Michigan.

May 26. Special permit issued to Amos S. Youngs of Weston, Michigan, to string a telephone wire over the tracks of the Lake Shore & Michigan Southern Railway Company in the highway at Weston, Michigan.

May 26. Special permit issued to the Michigan Telephone Company to string four wires at State street, Cheboygan; two wires on highway 100 yards north of depot, Bath, and four wires on Main street, Laingsburg, Michigan, over the tracks of the Michigan Central Railroad Company.

May 29. Special order issued to the Michigan Telephone Company to string two wires at North Branch crossing, Mt. Clemens, Michigan, over the tracks of the Grand Trunk Railway System.

June 1. Special permit issued to the Pleasant Lake Telephone Company to string two wires over the tracks of the Michigan Central Railroad Company at a point about five telegraph poles south of Leslie depot, Michigan.

June 2. Special permit issued to the Michigan Telephone Company to string ten wires on West Kalamazoo avenue, and forty wires on North Rose street, Kalamazoo, Michigan, over the tracks of the Michigan Central Railroad Company.

June 2. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Cleveland, Cincinnati, Chicago & St. Louis Railway Company on Packer street, Niles, Michigan.

June 3. Special permit issued to the Michigan Telephone Company to string fifteen wires over the tracks of the Michigan Central Railroad Company at Livernois avenue, Detroit, Michigan.

June 3. Special permit issued to the Michigan Telephone Company to string two wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Alcott street, Kalamazoo, Michigan.

June 3. Special permit issued to Messrs. Jones & Reynolds of Cassopolis, Michigan, to string two wires over the tracks of the Michigan Central Railroad Company two miles east of Vandalia, Michigan.

June 5. Special permit issued to the Michigan Telephone Company to string two wires at Mill street, Kalamazoo, Michigan, over the tracks of the Grand Rapids & Indiana Railway Company.

June 5. Special permit issued to the Michigan Telephone Company to string two wires at Monroe street, Manchester, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

June 5. Special permit issued to the Leslie Telephone Exchange to string four wires at Mill street, Leslie, Michigan, over the tracks of the Michigan Central Railroad Company.

June 7. Special permit issued to Frank Buell of Gaylord, Michigan, to string one telephone wire over the tracks of the Michigan Central Railroad Company at Gaylord, Michigan.

June 7. Special permit issued to Chase Construction Company to string two electric wires over the tracks of the Detroit, Grand Rapids & Western Railroad at Ashfield street and at Bridge street, Belding, Michigan.

June 7. Special permit issued to A. J. Hostetler of Shipshewana, Indiana, to string wires on the public highway two miles east of White Pigeon, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

June 8. Special permit issued to the Ionia Electric Company to string three wires over the tracks of the Detroit, Grand Rapids & Western Railroad Company at the foot of First street, Ionia, Michigan.

June 8. Special permit issued to the Ionia Electric Company to string wires over the tracks of the Detroit, Grand Haven & Milwaukee Railway Company at First street, Ionia, Michigan.

June 9. Special permit issued to Citizens Telephone Company to string twenty-four telephone wires over the tracks of Detroit, Grand Haven & Milwaukee Railway Company at highway west of Coopersville, Michigan.

June 12. Special permit issued to the Michigan Telephone Company to string fifteen wires on Liberty street between Milwaukee and Colum-

bus streets, Jackson, Michigan, over the tracks of the Michigan Central Railroad Company.

June 13. Special permit issued to the Michigan Telephone Company to string twenty telephone wires at first, second, third, fourth, fifth and eighth road crossings southeast of Pontiac in town of Bloomfield, county of Oakland, Michigan, over the tracks of the Detroit, Grand Haven & Milwaukee Railway Company.

June 13. Special permit issued to the Michigan Telephone Company to string one aerial cable over the tracks of the Lake Shore & Michigan Southern Railway Company at Warren avenue, Detroit, Michigan.

June 13. Special permit issued to the Michigan Telephone Company to string one aerial cable over the tracks of the Michigan Central Railroad at Warren Avenue, Detroit, Michigan.

June 13. Special permit issued to the Michigan Telephone Company to string one aerial cable over the tracks of the Grand Trunk Railway System at Warren avenue, Detroit, Michigan.

June 13. Special permit issued to the Citizens Telephone Company to string six wires within the limits of Charlotte, Michigan, over the tracks of the Michigan Central Railroad Company.

June 13. Special permit issued to the Citizens Telephone Company to string six telephone wires in the city of Charlotte, Michigan, over the tracks of the Grand Trunk Railway System.

June 17. Special permit issued the Michigan Telephone Company to string two wires at the Slip Dock, Detroit, Michigan, over the tracks of the Grand Trunk Railway System.

June 17. Special permit issued to the International Seal & Lock Company to string one cable over the tracks of the Chicago, Kalamazoo & Saginaw Railway Company at Hastings, Michigan. (Canceled.)

June 19. Special permit issued to the Citizens Telephone Company to string six telephone wires at Chester, Michigan, over the tracks of the Michigan Central Railroad Company.

June 19. Special permit issued to the New State Telephone Company to string twenty wires at Water street, Jackson, Michigan, over the tracks of the Michigan Central Railroad Company.

June 20. Special permit issued to the Citizens Telephone Company to string six telephone wires at Newaygo, and twelve telephone wires at Fremont, Michigan, over the tracks of the Chicago & West Michigan Railway company.

June 21. Special permit issued to Kalamazoo Electric Company to string one wire at Farmer street, at West River street, at Helen avenue, and two wires at East River Street, Otsego, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

June 21. Special permit issued to the New State Telephone Company to string twenty wires over of the tracks of the Lake Shore & Michigan Southern Railway Company at Water street, Jackson, Michigan.

June 21. Special permit issued to the Michigan Telephone Company to string ten wires at Greiner crossing and fifteen wires at Cass avenue, Mt. Clemens, Michigan, over the tracks of the Grand Trunk Railway Company.

June 22. Special permit issued to The Barryton & Evart Telephone Company to string wires over the tracks of the Flint & Pere Marquette

Railroad Company five hundred and forty feet west of the Muskegon river at Evart, Michigan.

June 23. Special permit to the Electric Light & Power Company, limited, to string two wires at foot of Spring street, near Water Works, Adrian, Michigan, over the tracks of the Detroit & Lima Northern Railway Company.

June 23. Special permit issued to the Kalamazoo Valley Electric Company to string two electric wires at Elizabeth street, Allegan, Michigan, over the tracks of the Chicago & West Michigan Railway Company.

June 26. Special permit issued to the Grand Rapids Messenger & Packet Company to string two wires at Fifth avenue, Grand Rapids Michigan, over the tracks of the Grand Rapids & Indiana Railway Company.

June 26. Special permit issued to the Grand Rapids Messenger & Packet Company to string two wires at Fifth avenue, Grand Rapids, Michigan, over the tracks of the Michigan Central Railroad Company.

June 26. Special permit issued to Bliss & Van Auken to string two electric light wires on Niagara street, Saginaw, W. S., Michigan, over the tracks of the Michigan Central Railroad Company.

June 27. Special permit issued to the New State Telephone Company to string wires at French Landing, Michigan, over the tracks of the Wabash Railroad Company.

June 27. Special permit issued to the Oceana Telephone Company to string forty telephone wires over the tracks of the Chicago & West Michigan Railway Company at Thompson street, Whitehall, Michigan.

June 28. Special permit issued to the Michigan Telephone Company to string four telephone wires at Manton, Michigan, over the tracks of the Grand Rapids & Indiana Railway Company.

June 29. Special permit issued to the Michigan Telephone Company to string four wires on the Constantine Road, Three Rivers, Michigan, over the tracks of the Michigan Central Railroad Company.

June 29. Special permit issued to the Michigan Telephone Company to string four wires on the county line road one-half mile from Hudson, Michigan, over the tracks of the Cincinnati Northern Railroad Company.

June 30. Special permit issued to the Union Telephone Company to string four telephone wires over the tracks of the Detroit, Grand Rapids & Western Railroad Company at Alma, Pine River township, St. Louis, Wheeler township, Breckenridge, Wheeler and near Merrill, Michigan.

July 1. Special permit issued to the Valley Telephone Company to string ten telephone wires over the tracks of the Grand Trunk Railway system at Bismark street, Flint, Michigan.

July 3. Special permit issued to the Twin City Telephone Company to string wires at Sodus, one-half mile north of Hartman, Eau Claire, Berrien Centre, one mile south of Berrien Centre, and at one and one-half miles south of Fairland, Michigan, over the tracks of the Cleveland, Cincinnati, Chicago & St. Louis Railway Company.

July 6. Special permit issued to the Michigan Telephone Company to string eight wires in Mill street, Three Rivers, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

July 6. Special permit issued to the Morenci Telephone Company to

string wires on the highway just east of station at North Morenci, Michigan, over the tracks of the Wabash Railroad Company.

July 6. Special permit issued to Bliss & Van Auker to string one additional electric light wire on Niagara street, Saginaw, Michigan, over the tracks of the Michigan Central Railroad Company.

July 7. Special permit issued to the Michigan Telephone Company to string wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Kalamazoo avenue east, Kalamazoo, Michigan.

July 7. Special permit issued to the Michigan Telephone Company to string twelve wires at East Avenue, Kalamazoo, Michigan, over the tracks of the Michigan Central Railroad Company.

July 7. Special permit issued to the Michigan Telephone Company to string four wires in McComb street, Manchester, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

July 7. Special permit issued to the Michigan Telephone Company to string four telephone wires at State and Bradford streets, Central Lake, Michigan, over the tracks of the Chicago & West Michigan.

July 7. Special permit issued to the Fayette Toll Line Company to string wires over the tracks of the Lake Shore & Michigan Southern Railway Company on the Territorial Road about one-half mile west of Morenci, Michigan.

July 8. Special permit issued to the Michigan Telephone Company to string wires over the tracks of the Chicago, Kalamazoo & Saginaw Railway Company at Kalamazoo avenue, Kalamazoo, Michigan.

July 8. Special permit issued to the Peninsular Telephone Company to string six wires over the tracks of the Chicago & Grand Trunk Railway system near Penfield, Michigan.

July 10. Special permit issued to the Michigan Telephone Company to string ten additional wires at North McCamley street, Battle Creek, Michigan, over the tracks of the Michigan Central Railroad Company.

July 11. Special permit issued to the Michigan Telephone Company to string four wires in Salisbury street, Morenci, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

July 12. Special permit issued to the Kalamazoo Valley Electric Company to string five wires at Frank street, Kalamazoo, Michigan, over the tracks of the Grand Rapids & Indiana Railway Company.

July 12. Special permit issued to the Kalamazoo Valley Electric Company to string five wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Frank street, Kalamazoo, Michigan.

July 12. Special permit issued to the Kalamazoo Valley Electric Company to string five wires at Frank street, Kalamazoo, Michigan, over the tracks of the Chicago, Kalamazoo & Saginaw Railway Company.

July 12. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Michigan Central Railroad Company leading to Clippert's brickyard, Springwells, Wayne county, Michigan.

July 13. Special permit issued to the Williamsburg Telephone Company to string one telephone wire over the tracks of the Chicago & West Michigan Railway Company (Elk Rapids branch) at mile post E-R-8, about one and one-half miles north of Williamsburg, Michigan.

July 15. Special permit issued to the Michigan Telephone Company to

string wires over the tracks of the Grand Rapids & Indiana Railway Company at Kalamazoo avenue, Kalamazoo, Michigan.

July 17. Special permit issued to the Leslie Telephone Exchange to string four wires at Bellevue street, Leslie, Michigan, over the tracks of the Michigan Central Railroad Company.

July 17. Special permit issued to the International Seal & Lock Company to string two electric wires and two telephone wires over the tracks of the Chicago, Kalamazoo & Saginaw Railway Company from the buildings of the Hastings Table Company to the International Seal & Lock Company's building, Hastings, Michigan.

July 17. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Grand Trunk Railway system at Franklin Road, one block from South Saginaw street, Pontiac, Michigan.

July 17. Special permit issued to the Michigan Telephone Company to string ten telephone wires at South Lafayette street, Grand Rapids, Michigan, over the tracks of the Detroit, Grand Rapids & Western Railroad Company.

July 17. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Grand Trunk Railway system, eighty feet west of station at Armada, Michigan.

July 19. Special permit issued to the Michigan Telephone Company to string ten wires at North Lafayette street, Grand Rapids, Michigan, over the tracks of the Grand Trunk Railway system.

July 19. Special permit issued to the New State Telephone Company to string wires over the tracks of the Chicago & Grand Trunk Railway system at one mile and two miles west of city limits of Flint, two miles east of Swartz Creek, and in Otterburn, Michigan.

July 20. Special permit issued to the Michigan Telephone Company to string ten additional telephone wires on Broadway between Elizabeth street and Alpine avenue, Grand Rapids, Michigan, over the tracks of the Grand Rapids & Indiana Railway Company.

July 20. Special permit issued to the Michigan Telephone Company to string ten additional wires on Broadway between Elizabeth street and Alpine avenue, Grand Rapids, over the tracks of the Grand Rapids & Indiana Railway Company.

July 20. Special permit issued to the Michigan Telephone Company to string ten additional wires on Broadway between Elizabeth street and Alpine avenue, Grand Rapids, Michigan, over the tracks of the Chicago & West Michigan Railway Company.

July 20. Special permit issued to the West Michigan Telephone Company to string one telephone wire on the highway running east and west on the quarter line in section 20 T. 2 N., R. 15 W., township of Clyde, county of Allegan, Michigan, over the tracks of the Chicago & West Michigan Railway Company.

July 21. Special permit issued to the Michigan Telephone Company to string ten wires on South Front street between Earle street and West Wealthy avenue, Grand Rapids, Michigan, over the tracks of the Chicago & West Michigan Railway Company.

July 21. Special permit issued to the Johnston Brothers of Lagrange,

Indiana, to string a telephone wire over the tracks of the Lake Shore & Michigan Southern Railway Company at Burr Oak, Michigan.

July 24. Special permit issued to the Michigan Telephone Company to string ten telephone wires at Morton street, South Grand Rapids, Michigan, over the tracks of the Grand Rapids & Indiana Railway Company.

July 24. Special permit issued to the Michigan Telephone Company to string ten telephone wires at Morton street, between St. Charles street and McKee avenue, South Grand Rapids, Michigan, over the tracks of the Michigan Central Railroad Company.

July 24. Special permit issued to the Citizens Telephone Company to string one telephone wire at Boyne City and Southeastern Railway crossing, north of Boyne Falls, Michigan, over the tracks of the Grand Rapids & Indiana Railway Company.

July 24. Special permit issued to the Michigan Telephone Company to string eight wires over the tracks of the Michigan Central Railroad Company one quarter mile west of the depot at St. Clair, Michigan.

July 25. Special permit issued to the Croswell Telephone Exchange to string wires over the tracks of the Flint & Pere Marquette Railroad Company at Harrington avenue, Wells and Ward streets, Croswell, Michigan.

July 26. Special permit issued to the Michigan Telephone Company to string twenty telephone wires at Godfrey avenue, Grand Rapids, Michigan, over the tracks of the Chicago & West Michigan Railway Company.

July 26. Special permit issued to the Michigan Telephone Company to string twenty telephone wires at Godfrey avenue, Grand Rapids, Michigan, over the tracks of the Grand Rapids & Indiana Railway Company.

July 29. Special permit issued to the Michigan Telephone Company to string thirty-eight wires at North Rose street between West Kalamazoo avenue and West Ransom street, Kalamazoo, Michigan, over the tracks of the Michigan Central Railroad Company.

July 31. Special permit issued to the Michigan Telephone Company to string one 50-pair cable at Lincoln avenue between Piquette and Walter streets, Hamilton street between Holden and Piquette streets, John R street between Baltimore and Endicott streets, Detroit, Michigan, over the tracks of the Michigan Central Railroad Company.

July 31. Special permit issued to the Michigan Telephone Company to string one 50-pair cable at Lincoln avenue between Piquette and Walter streets, Hamilton street between Holden and Piquette streets, John R street between Baltimore and Endicott streets, Detroit, Michigan, over the tracks of the Grand Trunk Railway System.

July 31. Special permit issued to the Michigan Telephone Company to string one 50-pair cable at Lincoln avenue between Piquette and Walter streets, Hamilton street between Holden and Piquette streets, John R street between Baltimore and Endicott streets, Detroit, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

July 31. Special permit issued to A. J. Hostetler of Shipshewana, Indiana, to string wires in the highway about one mile west of White Pigeon, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

August 2. Special permit issued to the Peninsular Telephone Company to string two wires over the tracks of the Michigan Central Railroad Company about one mile north of Athens, Michigan.

August 3. Special permit issued to the Citizens Telephone Company to string ten wires at Bennett Crossing about one-fourth mile east of M. C. R. R. depot at Hastings, Michigan, over the tracks of the Michigan Central Railroad Company.

August 4. Special permit issued to the Michigan Telephone Company to string four wires at Cass avenue, South Bay City, Michigan, over the tracks of the Flint & Pere Marquette Railroad Company.

August 4. Special permit issued to the New State Telephone Company to string twenty telephone wires at first crossing west of Grand Ledge, Michigan, over the tracks of the Detroit, Grand Rapids & Western Railroad Company.

August 5. Special permit issued to the Clark Electric Company to string three electric wires at Pine and Water streets, Columbiaville, Michigan, over the tracks of the Detroit & Bay City Railroad Company.

August 5. Special permit issued to the Michigan Telephone Company to string fourteen wires and one aerial cable on Burdick street, and one aerial cable on Kalamazoo avenue, Kalamazoo, Michigan, over the tracks of the Michigan Central Railroad Company.

August 7. Special permit issued to the Michigan Telephone Company to string wires over the tracks of the Duluth, South Shore & Atlantic Railway Company at Clarksburg; two miles east of Clarksburg; three and one-half miles east of Clarksburg; at Eagle Mills; Eagle Mills yard, Eagle Mills; one-half mile east of Champion; one mile west of Marquette; one and one-half miles west of Marquette; six miles west of Marquette; nine miles west of Marquette, Michigan.

August 7. Special permit issued to the Michigan Telephone Company to string wires over the tracks of the Chicago & Northwestern Railway Company at one-half mile east of Champion; one mile east of Champion; four miles west of Champion; one-half mile west of Ishpeming; three-fourths mile west of Ishpeming; one and one-half miles east of Michigamme; two and one-half miles east of Michigamme, Michigan.

August 8. Special permit issued to the Michigan Telephone Company to string twelve telephone wires at Buchanan street, Detroit, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

August 8. Special permit issued to the Michigan Telephone Company to string twelve telephone wires at Buchanan street, Detroit, Michigan, over the tracks of the Michigan Central Railroad Company.

August 8. Special permit issued to the Michigan Telephone Company to string twelve telephone wires at Buchanan street, Detroit, Michigan, over the tracks of the Grand Trunk Railway System.

August 8. Special permit issued to the Valley Telephone Company to string ten additional telephone wires at Montrose, Michigan, over the tracks of the Grand Trunk Railway System.

August 8. Special permit issued to J. Boland of Jackson, Michigan, to string one telephone wire over the tracks of the Grand Trunk Railway System at mile post 104, Jackson, Michigan.

August 12. Special permit issued to the Schoolcraft Telephone Company to string four telephone wires over the tracks of the Grand Trunk Railway System at public road crossing two miles west of Schoolcraft, Michigan.

August 14. Special permit issued to the New State Telephone Company to string seven additional telephone wires on Main street, just west of G. T. station, Lapeer, Michigan, over the tracks of the Grand Trunk Railway System.

August 15. Special permit issued to the Michigan Telephone Company to string forty wires over the tracks of the Duluth, South Shore & Atlantic Railway Company at Division street between Copper and Iron streets; Division street between Copper and South Jackson Road in Negaunee; Washington street between McLellan and city limits Marquette; junction Division and Canada streets; and South Jackson Road at east line of Section 10, T. 47 N., R. 27 W., Ishpeming, Michigan.

August 15. Special permit issued to the Michigan Telephone Company to string wires over the tracks of the Union Station & Terminal Association at Eighteenth and one-half street, Detroit, Michigan.

August 17. Special permit issued to the Michigan Telephone Company to string twelve telephone wires at Raymond street, Battle Creek, Michigan, over the tracks of the Michigan Central Railroad Company.

August 17. Special permit issued to the Michigan Telephone Company to string four wires over the tracks of the Lake Shore & Michigan Southern Railway Company at highway crossing of Chicago Road, Bronson, Michigan.

August 19. Special permit issued to the Michigan Telephone Company to string one aerial cable on Woodside avenue, Bay City, Michigan, over the tracks of the Michigan Central Railroad Company.

August 19. Special permit issued to the Michigan Telephone Company to string twenty-four wires over the tracks of the Chicago, Milwaukee & St. Paul Railway Company one mile east of Champion, Michigan.

August 19. Special permit issued to the Michigan Telephone Company to string wires over the Iron Range & Huron Bay Railroad Company at one mile west of Champion, and one and one-half miles west of Champion, Michigan.

August 22. Special permit issued to A. J. Hostetler of Shipshewana, Indiana, to string wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Centreville street, Constantine, Michigan.

August 22. Special permit issued to the Michigan Telephone Company to string forty wires over the tracks of the Lake Superior & Ishpeming Railway Company at junction of Seventh and Division streets, Ishpeming; and forty wires at South Jackson road between Gold street and city limits, Negaunee, Michigan.

August 22. Special permit issued to the Michigan Telephone Company to string twelve wires over the tracks of the Chicago & Northwestern Railway Company at north line of S. E. $\frac{1}{4}$ of S. E. $\frac{1}{4}$, Section 3, T. 32 N., R. 27 W.; S. E. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ of Section 22, T. 33 N., R. 27 W.; S. $\frac{1}{2}$ of N. W. $\frac{1}{4}$ of Section 23, T. 35 N., R. 27 W.; N. E. $\frac{1}{4}$ of N. W. $\frac{1}{4}$ of Section 2, T. 35 N., R. 27 W.; N. $\frac{1}{2}$ of N. E. $\frac{1}{4}$ of Section 30, T. 27 N., R. 26 W.; south line Section 32, T. 38 N., R. 26 W.; in county of Menominee; and forty wires at Division street between Canada and Lake streets, Ishpeming, Michigan.

August 23. Special permit issued to the Michigan Telephone Company to string twelve telephone wires at Upton Avenue, Battle Creek, Michigan, over the tracks of the Grand Trunk Railway System.

August 25. Special permit issued to the Kalamazoo Valley Electric

Company to string five wires at North street, Kalamazoo, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

August 29. Special permit issued to the Kibbie Telephone Company to string four telephone wires over the tracks of the South Haven & Eastern Railroad Company at highway crossing west of Lawrence, Michigan.

August 29. Special permit issued to the Citizens Telephone Company to string ten telephone wires over the tracks of the Detroit, Grand Rapids & Western Railroad Company just west of depot at Trufant, Michigan.

August 29. Special permit issued to the Michigan Telephone Company to string ten telephone wires at Lansing street, Battle Creek, Michigan, over the tracks of the Michigan Central Railroad Company.

August 30. Special permit issued to the Michigan Telephone Company to string four telephone wires in Nottawa street, Sturgis, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

August 31. Special permit issued to the New State Telephone Company to string ten telephone wires over the tracks of the Grand Trunk Railway System at a point thirty yards west of G. T. station, Hamburg, Michigan.

September 1. Special permit issued to the Michigan Telephone Company to string two 50-pair cables at Sixth street and Jefferson avenue; one 50-pair cable at Woodside avenue; one 50-pair cable at Madison street, Bay City, Michigan, over the tracks of the Flint & Pere Marquette Railroad Company.

September 1. Special permit issued to Excelsior Electric Company to string wires over the tracks of the Grand Trunk Railway Company from Griswold street to Swift & Company's icehouse, Port Huron, Michigan.

September 1. Special permit issued to the Michigan Telephone Company to string twelve telephone wires over the tracks of the Grand Trunk Railway System at Grand avenue, Grand Rapids, Michigan.

September 1. Special permit issued to the Valley Telephone Company to string four telephone wires over the tracks of the Michigan Central Railroad Company leading to Shaft No. 2, Monitor Mine, one-half mile west of Bay City, Michigan.

September 1. Special permit issued to A. L. Beard of Morrice, Michigan, to string one telephone wire over the tracks of the Grand Trunk Railway System 400 feet east of G. T. Depot, Morrice, Michigan.

September 5. Special permit issued to the Michigan Telephone Company to string twelve telephone wires over the tracks of the Grand Trunk Railway System from Forest to Shetler streets, Battle Creek, Michigan.

September 5. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Michigan Central and Detroit, Grand Rapids & Western Railroad Companies at the north side of Franklin street, North Lansing, Michigan.

September 6. Special permit issued to the New State Telephone Company to string telephone wires over the tracks of the Ann Arbor Railroad Company two miles south of Cohoctah; four miles south of Cohoctah; thirty yards west of Hamburg, and three-fourths mile north of Whitmore Lake, Michigan.

September 8. Special permit issued to the Michigan Central Railroad Company to string two telephone wires over the tracks of the Lake Shore

& Michigan Southern Railway Company at Junction avenue, Detroit, Michigan.

September 8. Special permit issued to the Michigan Telephone Company to string eight telephone wires over the tracks of the Michigan Central Railroad Company at North Chapman street, one block north of the Owosso Manufacturing Company, Owosso, Michigan.

September 14. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Jefferson street, Coldwater, and five telephone wires at Division street, Coldwater, Michigan.

September 18. Special permit issued to Jones & Reynolds of Cassopolis, Michigan, to string one telephone wire over the tracks of the Michigan Central Railroad at a point eighty rods east of Sandy Beach, Michigan.

September 18. Special permit issued to the Michigan Telephone Company to string ten telephone wires at Main street, Bennington, Michigan, over the tracks of the Michigan Central Railroad Company.

September 18. Special permit issued to the Michigan Telephone Company to string one guy wire over the tracks of the Lake Shore & Michigan Southern Railway Company at Junction avenue, West Detroit, Michigan.

September 18. Special permit issued to the Michigan Telephone Company to string twelve additional telephone wires at Flint avenue, Three Rivers, Michigan, over the tracks of the Michigan Central Railroad Company.

September 18. Special permit issued to the Michigan Telephone Company to string telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company in the highway about two miles north of Rockwood, between sections 34 and 35, T. 4 S., R. 10 E., Wayne county, Michigan.

September 18. Special permit issued to the Michigan Telephone Company to string two 50-pair cables over the tracks of the Michigan Central Railroad Company on Milwaukee avenue at the intersection of Crystal street, Detroit, Michigan.

September 18. Special permit issued to the Michigan Telephone Company to string one 50-pair cable over the tracks of the Michigan Central Railroad Company on Russell street at the intersection of the Boulevard, Detroit, Michigan.

September 18. Special permit issued to the Michigan Telephone Company to string one 50-pair cable over the tracks of the Michigan Central Railroad Company at Main street crossing, Jackson, Michigan.

September 18. Special permit issued to the Michigan Telephone Company to string eleven telephone wires over the Minneapolis, St. Paul & Sault Ste. Marie Railway Company in the N. $\frac{1}{2}$ of the S. W. $\frac{1}{4}$ of Section 6, T. 39 N., R. 22 W., at said railway's crossing with the Chicago & Northwestern Railway in Delta county, Michigan.

September 18. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company in the N. E. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ of Section 23, T. 44 N., R. 6 W., at Trout Lake Junction, Chippewa county, Michigan.

September 18. Special permit issued to the Michigan Telephone Company to string four telephone wire over the tracks of the Munising Rail-

way Company in the S. E. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ of Section 17, T. 46 N., R. 19 W., at said railway's crossing with the Duluth, South Shore & Atlantic Railway Company in Alger county, Michigan.

September 22. Special permit issued to the Michigan Telephone Company to string ten telephone wires at Main street, Scottville, Michigan, over the tracks of the Flint & Pere Marquette Railroad Company.

September 22. Special permit issued to the Michigan Telephone Company to string twelve telephone wires at Pearl street, Three Rivers, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

September 22. Special permit issued to the Michigan Telephone Company to string six additional telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company in the highway one mile east of Plainwell depot, and at Main street crossing in Plainwell, Allegan county, Michigan.

September 22. Special permit issued to the Michigan Telephone Company to string six additional telephone wires over the tracks of the Cincinnati Northern Railroad Company at highway crossing one mile west of Monteith depot and between Section 30, T. 2 N., R. 11 W., and Section 29, T. 2 N., R. 11 W., county of Allegan, Michigan.

September 22. Special permit issued to the Michigan Telephone Company to string sixty telephone wires over the tracks of the Detroit, Grand Rapids & Western Railroad Company at highway crossing in Section 28, T. 1 S., R. 10 E., in the town of Oak, county of Wayne, Michigan.

September 22. Special permit issued to the Michigan Telephone Company to string eleven additional telephone wires at South Division street, Grand Rapids, Michigan, over the tracks of the Detroit, Grand Rapids & Western Railroad Company.

September 22. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Wabash Railroad Company at the crossing of the Toledo and Dearborn road between Sections 2 and 3, T. 3 S., R. 10 E., in the township of Taylor, county of Wayne, Michigan.

September 27. Special permit issued to the Michigan Telephone Company to string twenty telephone wires over the tracks of the Michigan Central Railroad Company at Center street, Dearborn, Michigan.

September 27. Special permit issued to the Michigan Telephone Company to string six additional telephone wires over the tracks of the Michigan Central Railroad Company three miles west of Kalamazoo, between section 7, T. 2 S., R. 11 W., and section 8, T. 2 S., R. 11 W., county of Kalamazoo, Michigan.

September 27. Special permit issued to the Michigan Telephone Company to string six additional telephone wires over the tracks of the Michigan Central Railroad Company at highway crossing between S. E. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ of Section 12, T. 6 N., R. 12 W., and the S. W. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ of Section 7, T. 6 N., R. 11 W., about four miles south of Grand Rapids, in the county of Kent, Michigan.

September 27. Special permit issued to the Michigan Telephone Company to string six additional telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at West Superior street, Wayland (about 1200 feet south of Wayland depot), Allegan county, Michigan.

September 27. Special permit issued to the Michigan Telephone Com-

pany to string six additional telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at highway crossing one and one-half miles south of Bradley depot, and between Sections 30 and 31, T. 3 N., R. 11 W., and Sections 29 and 32, T. 3 N., R. 11 W., Allegan county, Michigan.

September 27. Special permit issued to the Michigan Telephone Company to string six additional telephone wires over the Grand Rapids & Indiana Railway Company at highway crossing between Section 13, T. 4 N., R. 11 W., and section 18, T. 4 N., R. 11 West, three-fourths mile south of Moline depot, Allegan county, Michigan.

September 30. Special permit issued to W. H. Hildabridle of Trowbridge, Michigan, to string two telegraph wires over the tracks of the Detroit, Grand Rapids & Western Railroad Company at Trowbridge, Michigan.

September 30. Special permit issued to the Michigan Telephone Company to string twelve telephone wires over the tracks of the Michigan Central Railroad Company at Bennington station, and two telephone wires at the intersection of the Grand River road and the Laingsburg road, Bennington, Michigan.

September 30. Special permit issued to the Michigan Telephone Company to string six telephone wires at Broadway street and at Eighth street, Three Rivers, Michigan, over the tracks of the Michigan Central Railroad Company.

September 30. Special permit issued to the Michigan Telephone Company to string two telephone wires over the tracks of the Michigan Central Railroad Company at Fifth avenue, Grand Rapids, Michigan.

September 30. Special permit issued to the Michigan Telephone Company to string ten telephone wires at Fifth avenue, Grand Rapids, Michigan, over the tracks of the Detroit, Grand Rapids & Western Railroad Company.

September 30. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Fifth avenue, Grand Rapids, Michigan.

September 30. Special permit issued to the Michigan Telephone Company to string eight additional telephone wires over the Michigan Central Railroad on highway between the S. E. $\frac{1}{4}$ of Section 1, T. 4 N., R. 14 E., Macomb county, and the S. W. $\frac{1}{4}$ of Section 6, T. 4 N., R. 15 E., St. Clair county, Michigan.

September 30. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Trunk Railway Company at Harris avenue, Charlotte, Michigan.

October 3. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Wabash Railroad Company at Dragoon avenue, Detroit, Michigan.

October 3. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Flint & Pere Marquette Railroad Company at Dragoon avenue, Detroit, Michigan.

October 4. Special permit issued to The Valley Telephone Company to string twenty telephone wires over the tracks of the Michigan Central Railroad Company at East Center avenue, Bay City, Michigan.

October 4. Special permit issued to the Michigan Telephone Company to string twelve telephone wires over the tracks of the Cincinnati North-

ern Railroad Company on Belden road at the city limits, Jackson, Michigan.

October 4. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Michigan Central Railroad Company at Columbia street, Mason; at Whites Junction, corporation limits, Mason; and at Ash street, Mason, Michigan.

October 5. Special permit issued to the Michigan Telephone Company to string eight additional telephone wires over the tracks of the Detroit & River St. Clair Railway Company at the highway crossing in the N. W. $\frac{1}{4}$ of Section 20, T. 3 N., R. 14 E. (one mile east of Chesterfield), in the county of Macomb, Michigan.

October 5. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Michigan Central Railroad Company at Leuscher street, Detroit, Michigan.

October 5. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Grand Trunk Railway System at Leuscher street, Detroit, Michigan.

October 7. Special permit issued to the Oceana Telephone Company to string thirty telephone wires about five rods east of Madison street, Ludington; six telephone wires about one mile east of Ludington on Sixth street; six telephone wires on State road about forty rods south and west of crossing one mile east of Ludington, Michigan, over the tracks of the Flint & Pere Marquette Railroad Company.

October 9. Special permit issued to the New State Telephone Company to string five telephone wires at Junction avenue, Detroit, Michigan, over the tracks of the Michigan Central Railroad Company.

October 9. Special permit issued to the New State Telephone Company to string fifty telephone wires over the tracks of the Wabash Railroad Company at Junction avenue, Detroit, Michigan.

October 9. Special permit issued to the New State Telephone Company to string fifty telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Junction avenue, Detroit, Michigan.

October 9. Special permit issued to the Michigan Telephone Company to string ten additional telephone wires at McCamley street, north, and at Canal street, Battle Creek, Michigan, over the tracks of the Michigan Central Railroad Company.

October 9. Special permit issued to the village of White Cloud, Michigan, to string three electric wires over the tracks of the Chicago & West Michigan Railway Company at Wilcox avenue and Barton street; three electric wires at Wilcox avenue, east of Charles street; three electric wires at North avenue; three electric wires at Charles street (two crossings); three electric wires at railway coal dock, White Cloud, Michigan.

October 9. Special permit issued to the city of Ypsilanti to string one electric light wire over the tracks of the Michigan Central Railroad Company at Forest avenue, Ypsilanti, Michigan.

October 9. Special permit issued to the city of Ypsilanti to string one electric wire over the tracks of the Lake Shore & Michigan Southern Railway Company at Huron street, Ypsilanti, Michigan.

October 11. Special permit issued to A. J. Hostetler of Shipshewana, Indiana, to string wires on the Three Rivers road one-half mile north of

Constantine, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

October 11. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Manistique Railway Company at the crossing with the Duluth, South Shore & Atlantic Railway in the town of Seney, county of Schoolcraft, Michigan.

October 12. Special permit issued to the Benzie County Telephone Company to string telephone wires over the Ann Arbor Railroad Company at Frankfort and Beulah, Michigan.

October 13. Special permit issued to the New State Telephone Company to string ten telephone wires over the tracks of the Ann Arbor Railroad Company on the Saline road, Michigan.

October 17. Special permit issued to the Michigan Telephone Company to string seventy telephone wires over the tracks of the Grand Trunk Railway System at the intersection of Taylor and Quimby streets, Grand Rapids, Michigan.

October 17. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Flint & Pere Marquette Railroad Company on West Fort street, Detroit, Michigan.

October 17. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Michigan Central Railroad Company at Hall street, east of Beach street, Battle Creek, Michigan.

October 19. Special permit issued to the Michigan Telephone Company to string twelve telephone wires over the Chicago & Northwestern Railway Company at highway crossing in Section 30, T. 37 N., R. 26 W., about one and one-half miles north of Bagley Junction, Menominee county, Michigan.

October 19. Special permit issued to the village of Blissfield, Michigan, to string electric light wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Monroe, Quick and Green streets, Blissfield, Michigan.

October 19. Special permit issued to the Adrian Telephone Company to string a telephone line over the tracks of the Lake Shore & Michigan Southern Railway Company at Market street, Hudson, Michigan.

October 19. Special permit issued to the Michigan Telephone Company to string forty telephone wires over the tracks of the Duluth, South Shore & Atlantic Railway Company at State street, State street near junction of spur track, and at State street near Reagon street, St. Ignace, Michigan.

October 23. Special permit issued to the Michigan Telephone Company to string two telephone wires over the tracks of the Grand Trunk Railway Company at Capac, Michigan.

October 23. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Detroit, Grand Rapids & Western Railroad Company at Maynard Road, Portland, Michigan.

October 23. Special permit issued to the city of Ypsilanti to string electric wire over the tracks of the Lake Shore & Michigan Southern Railway Company at Ann street, Ypsilanti, Michigan.

October 23. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Duluth, South

Shore & Atlantic Railway Company at Nestoria, Baraga county, Michigan.

October 23. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Duluth, South Shore & Atlantic Railway Company on the N. E. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ of Section 32 and S. W. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ of Section 36, T. 46 N., R. 8 W., at Soo Junction, Michigan.

October 27. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & West Michigan Railway Company at Leonard street, Grand Rapids, Michigan.

October 27. Special permit issued to The Valley Telephone Company to string two telephone wires at Twelfth street, Saginaw, E. S., Michigan, over the tracks of the Flint & Pere Marquette Railroad Company.

October 30. Special permit issued to the Michigan Telephone Company to string five additional telephone wires over the tracks of the Michigan Central Railroad Company (Air Line Division) at Flint avenue, Three Rivers, Michigan.

October 30. Special permit issued to the Citizens Telephone Company to string ten telephone wires over the tracks of the Detroit, Grand Haven & Milwaukee Railway Company, just west of station at Lowell, Michigan.

November 1. Special permit issued to the Standard Oil Company to string two electric light wires between Darling Milling Company's mill and Standard Oil Company's oil house, Fremont, Michigan, over the tracks of the Chicago & West Michigan Railway Company.

November 1. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Michigan Central Railroad Company about 100 feet south of M. C. R. R. depot, Reese, Michigan.

November 1. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Saginaw, Tuscola & Huron Railroad Company at about 100 feet south of M. C. R. R. depot, Reese, Michigan.

November 1. Special permit issued to the Michigan Telephone Company to string fifty telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Leonard street, thirty-two telephone wires at Alpine street, Grand Rapids, Michigan.

November 1. Special permit issued to the Michigan Telephone Company to string forty telephone wires over the tracks of the Duluth, South Shore & Atlantic Railway Company at Gordreau alley crossing, St. Ignace, Michigan.

November 3. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Grand Trunk Railway System on Main street, Bellevue, Michigan.

November 3. Special permit issued to the Michigan Telephone Company to string four additional telephone wires at Main street, Galien, Michigan, over the tracks of the Michigan Central Railroad Company.

November 3. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & Northwestern Railway Company at Main street, Nadeau, Menominee county, Michigan.

November 3. Special permit issued to the Michigan Telephone Com-

pany to string two telephone wires at Almer street, Caro, Michigan, over the tracks of the Michigan Central Railroad Company.

November 3. Special permit issued to the Michigan Telephone Company to string one 25-pair cable at Ionia and Superior streets, Albion, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

November 3. Special permit issued to the Michigan Telephone Company to string one 25-pair cable at Superior street, Albion, Michigan, over the tracks of the Michigan Central Railroad Company.

November 3. Special permit issued to the Michigan Telephone Company to string twenty telephone wires over the tracks of the Grand Trunk Railway System at Alpine street, Grand Rapids, Michigan.

November 4. Special permit issued to the Eaton County Telephone Company to string six telephone wires over the tracks of the Chicago & Grand Trunk Railway Company at a point three miles northeast of Charlotte, Michigan.

November 7. Special permit issued to the Michigan Telephone Company to string two telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Arnold street, Quincy, Michigan.

November 7. Special permit issued to the Saginaw Valley Traction Company to string two No. 6 wires over the tracks of the Michigan Central Railroad Company at Hickory street, Carrollton, Michigan.

November 7. Special permit issued to the Saginaw Valley Traction Company to string two No. 6 wires over the tracks of the Cincinnati, Saginaw & Mackinaw Railroad Company at Hickory street, Carrollton, Michigan.

November 8. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Duluth, South Shore & Atlantic Railway Company in the N. W. $\frac{1}{4}$ of N. W. $\frac{1}{4}$ of Section 8, T. 43 N., R. 5 W., just north of Ozark, Mackinac county, Michigan.

November 11. Special permit issued to the Michigan Telephone Company to string two telephone wires over the tracks of the Chicago & Northwestern Railway Company at Carley street, Ingalls, Menominee County, Michigan.

November 11. Special permit issued to the Michigan Telephone Company to string twelve telephone wires over the tracks of the Chicago & Northwestern Railway Company at junction of Menominee and Lenoner streets, Stephenson, Menominee county, Michigan.

November 11. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Church street, Reed City; six telephone wires at highway crossing between S. W. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ of Section 4, T. 17 N., R. 10 W., and the N. W. $\frac{1}{4}$ of N. E. $\frac{1}{4}$ of Section 9, T. 17 N., R. 10 W., about one-half mile north of Reed City, Osceola county, Michigan.

November 14. Special permit issued to A. A. Hall of Stockbridge, Michigan, to string one telephone wire ten rods west of station at Stockbridge, one-half mile east of Munith, twelve rods east of station at Munith, Michigan, over the tracks of the Grand Trunk Railway System.

November 16. Special permit issued to the Michigan Telephone Company to string twelve telephone wires over the tracks of the St. Joseph,

South Bend & Southern Railroad Company at Broad street (at Compound Door Company's side track), St. Joseph, Michigan.

November 16. Special permit issued to the Citizens Telephone Company to string thirty telephone wires on the main street running south to the bridge over Grand River, near the depot of the D. G. H. & M. Ry. at Lowell, Michigan, over the Lowell & Hastings Railroad Company.

November 18. Special permit issued to the Postal Telegraph Cable Company to string three telegraph wires over the tracks of the Lake Shore & Michigan Southern Railway Company at the crossing of Mill and Kalamazoo streets, Lansing, Michigan.

November 20. Special permit issued to the Michigan Telephone Company to string two telephone wires over the tracks of the Michigan Central Railroad Company, at Belleview street, Leslie, Michigan.

November 20. Special permit issued to the Michigan Telephone Company to string eight additional telephone wires over the tracks of the Michigan Central Railroad Company at Elm street, Three Oaks, Michigan.

November 20. Special permit issued to the Citizens Telephone Company to string thirty telephone wires over the tracks of the Lowell & Hastings Railroad Company where said railroad crosses the main street in the village of Lowell, Michigan.

November 20. Special permit issued to the Citizens Telephone Company to string two telephone wires over the tracks of the Grand Trunk Railway System on the county road bounding Section 8 on the north, Harrisburg, township of Chester, county of Ottawa, Michigan.

November 20. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Ann Arbor Railroad Company at Wood street, Cadillac, Michigan.

November 20. Special permit issued to the Michigan Telephone Company to string two additional telephone wires over the tracks of the Chicago & West Michigan Railway Company at highway crossing between S. W. $\frac{1}{4}$ of Section 36, T. 9 N., R. 12 W., and N. W. $\frac{1}{4}$ of Section 1, T. 6 N., R. 12 W., at Englishville, Kent county, Michigan.

November 20. Special permit issued to the Michigan Telephone Company to string four telephone wires in the S. E. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ of Section 30, T. 46 N., R. 17 W., at Shingleton, Alger county; six telephone wires in the N. E. $\frac{1}{4}$ of N. W. $\frac{1}{4}$ of Section 7, T. 44 N., R. 6 W., at Kemp, Mackinac county; six telephone wires in the S. W. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ of Section 8, T. 44 N., R. 6 W., at Cana, Mackinac county, Michigan, over the tracks of the Duluth, South Shore & Atlantic Railway Company.

November 23. Special permit issued to the Michigan Telephone Company to string forty-eight telephone wires over the tracks of the Chicago & Northwestern Railway Company at Stephenson avenue, Escanaba, Delta county, Michigan.

November 23. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company at First street crossing, Hermansville, Menominee county, Michigan.

November 23. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & West

Michigan Railway Company at Church street, and at White street, Howard City, Michigan.

November 23. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Third street, Morley, Mecosta county, Michigan.

November 23. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at highway crossing four miles south of Stanwood, Mecosta county, Michigan.

November 23. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at highway crossing one-half mile south of Stanwood, Mecosta county, Michigan.

November 23. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at highway crossing one-fourth mile north of Stanwood, Mecosta county, Michigan.

November 23. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at highway crossing three-fourths mile south of Reed City, Osceola county, Michigan.

November 23. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at highway crossing one-half mile north of Ashton, Osceola county, Michigan.

November 23. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at highway crossing, between S. E. $\frac{1}{4}$ of Section 23, T. 12 N., R. 10 W. and N. E. $\frac{1}{4}$ of Section 26, T. 12 N., R. 10 W., Montcalm County, Michigan.

November 23. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at highway crossing between S. E. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ and the S. W. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ of Section 9, T. 22 N., R. 9 W., Wexford county, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Main street, Kingsley, Grand Traverse county, and at highway crossing in the N. W. $\frac{1}{4}$ of Section 4, T. 25 N., R. 10 W., one-half mile north of Kingsley, Grand Traverse county, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Front street, Traverse City, and at highway crossing between N. E. $\frac{1}{4}$ of Section 33 and S. E. $\frac{1}{4}$ of Section 28, T. 25 N., R. 9 W., Grand Traverse county, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Michigan Central Railroad Company at Genesee street, Lapeer, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string eight telephone wires over the tracks of the Michigan

Central Railroad Company on the northwest side of passenger station at Lansing, Mich.

November 29. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Duluth, South Shore & Atlantic Railway Company in the N. W. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ of Section 23, T. 44 N., R. 6 West, 1780 feet from crossing of D., S. S. & A., and M., St. P. & S. Ste. M. Rys. at Trout Lake Junction, Chippewa county, Michigan.

November 29. Special permit issued to the Kalamazoo Valley Electric Company to string four lighting wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Vine, Third and Portage streets, Kalamazoo, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string two telephone wires over the tracks of the Duluth, South Shore & Atlantic Railway Company at Newberry Avenue near Helen street, Newberry, Luce county, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Cummer & Diggins Logging Road at Harring street, Cadillac, Wexford county, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Toledo, Saginaw & Muskegon Railway Company at highway just south of village limits, Cedar Springs, Kent county, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Ann Arbor Railroad Company at North street, Corunna, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Trunk Railway System at North street, Corunna, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string seventeen telephone wires over the tracks of the Escanaba & Lake Superior Railway Company at Escanaba River in the N. E. $\frac{1}{4}$ of N W $\frac{1}{4}$ of Section 18, T. 39 N., R. 22 W., Delta county, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string twenty additional telephone wires over the tracks of the Detroit, Grand Haven & Milwaukee Railway Company at North Lafayette street, Grand Rapids, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string twenty additional telephone wires over the tracks of the Detroit, Grand Rapids & Western Railroad Company at Madison avenue, Grand Rapids, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & West Michigan Railway Company at the intersection of Garfield and Hannah avenue, Traverse City, Grand Traverse county; at Mitchell's mill in E. $\frac{1}{2}$ of S. E. $\frac{1}{4}$ of Section 7, T. 27 N., R. 10 W., or Lot 1 in Grand Traverse county; in S. W. $\frac{1}{4}$ of Section 9, T. 27 N., R. 10 W., about one and one-half miles south of Acme station, Grand Traverse county; in S. $\frac{1}{2}$ of S. W. $\frac{1}{4}$ of Section 3, T. 27 N., R. 10 W., Grand Traverse county, Michigan.

November 29. Special permit issued to the Michigan Telephone Com-

pany to string twenty-five telephone wires over the tracks of the Chicago & Northwestern Railway Company at Gladstone road crossing, between Sections 18 and 19, T. 40 N., R. 22 W., at West Gladstone, Delta county, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string twenty-one telephone wires over the tracks of the Chicago & Northwestern Railway Company at Hartnett avenue, Escanaba, Delta county, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at West Church street, Reed City, and on highway between S. W. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ of Section 4 and N. W. $\frac{1}{4}$ of N. E. $\frac{1}{4}$ of Section 9, T. 17 N., R. 10 W., Osceola county, Michigan.

November 29. Special permit issued to the Michigan Telephone Company to string two telephone wires at Main and Front streets, Dollarville, Luce county, four telephone wires in N. W. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ of Section 27, T. 46 N., R. 10 W., Dollarville, Luce county, and four telephone wires in N. W. $\frac{1}{4}$ of N. W. $\frac{1}{4}$ of Section 34, T. 46 N., R. 15 W., Walsh, Schoolcraft county, Michigan, over the tracks of the Duluth, South Shore & Atlantic Railway Company.

December 1. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Danaher & Melendy Company in N. E. $\frac{1}{4}$ of N. E. $\frac{1}{4}$ of Section 34, T. 46 N., R. 12 W., Luce county, Michigan.

December 1. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & Northwestern Railway Company at Third street, Powers, Menominee county, Michigan.

December 1. Special permit issued to the Michigan Telephone Company to string twenty telephone wires over the tracks of the Grand Trunk Railway System at the center line road, 500 feet west of Mt. Oliver cemetery, Norris, Michigan.

December 1. Special permit issued to the Michigan Telephone Company to string eight telephone wires over the tracks of the Duluth, South Shore & Atlantic Railway Company at Seney avenue, Seney, Schoolcraft county, Michigan.

December 1. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Flint & Pere Marquette Railroad Company at Reed City, Osceola County, Michigan.

December 1. Special permit issued to Plato, Renwick & Company to string one guy wire over the tracks of the Detroit, Grand Rapids & Western Railroad Company leading to Plato, Renwick & Company's planing mill, Barryton, Mecosta county, Michigan.

December 2. Special permit issued to the Monroe Gas & Electric Light Company to string one electric wire on Smith street, Monroe, Michigan, over the tracks of the Lake Shore & Michigan Southern Railway Company.

December 2. Special permit issued to the Michigan Telephone Company to string one 50-pair cable and one three-eighths messenger wire to replace twenty No. 14 iron wires at South Division street, between Garden and Otsega streets, Grand Rapids, Michigan, over the tracks of the Detroit, Grand Rapids & Western Railroad Company.

December 2. Special permit issued to the Michigan Telephone Company to string one 50-pair cable and one three-eighth steel strand messenger wire to replace thirty-five No. 14 iron wires at the junction of Washington and Seventh streets, Grand Haven, Michigan, over the tracks of the Chicago & West Michigan Railway Company.

December 2. Special permit issued to the Postal Telegraph-Cable Company to string two telegraph wires over the tracks of the Michigan Central Railroad Company at corner of Fourth and Buchanan streets, and on Third avenue, between Buchanan and Hilton streets, Grand Rapids, Michigan.

December 2. Special permit issued to the Postal Telegraph-Cable Company to string two telegraph wires over the tracks of the Michigan Central Railroad Company on highway running north and south in Paris Township at the intersection of Sections 17, 18, 19 and 20, about six miles south of Grand Rapids, Michigan.

December 2. Special permit issued to the Michigan Telephone Company to string two telegraph wires over the tracks of the Cincinnati Northern Railroad Company on highway running north and south, between Sections 32 and 33, one-half mile east of Monteith, Michigan.

December 2. Special permit issued to the Postal Telegraph-Cable Company to string two telegraph wires over the tracks of the Detroit, Grand Rapids & Western Railroad Company at Third avenue, between Buchanan and Hilton streets, Grand Rapids, Michigan.

December 2. Special permit issued to the Postal Telegraph-Cable Company to string two telegraph wires over the tracks of the Grand Rapids & Indiana Railway Company on Third avenue, between Buchanan and Hilton streets, Grand Rapids, Michigan.

December 2. Special permit issued to the Postal Telegraph-Cable Company to string two telegraph wires over the tracks of the Grand Rapids & Indiana Railway Company on highway running north and south in south end of Section 8, Gun Plain Township, three miles north of Plainwell; on highway running north and south in south end of Section 5, Gun Plain Township, four miles north of Plainwell, Michigan.

December 2. Special permit issued to the Postal Telegraph-Cable Company to string two telegraph wires over the tracks of the Grand Rapids & Indiana Railway Company on township line running east and west between Kalamazoo and Cooper townships, sections 3 and 24, three miles north of Kalamazoo; on first highway running north and south, east of Travis station, Section 4, Cooper township; on first highway running east and west and north of Travis station in Section 4, Cooper township, Michigan.

December 4. Special permit issued to the Michigan Telephone Company to string nine telephone wires over the tracks of the Chicago & Northwestern Railway Company at Third street, Powers, Menominee county, Michigan.

December 4. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Bridge street, Rockford, Kent county, Michigan.

December 4. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at highway between S. E. $\frac{1}{4}$ of Section 15, T.

11 N., R. 10 W. and Section 22, T. 11 N., R. 10 W., Montcalm county, Michigan.

December 4. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Main street, Cedar Springs, Kent county, Michigan.

December 4. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company, one-fourth mile north of Cedar Springs, Michigan.

December 5. Special permit issued to the Michigan Telephone Company to string ten additional telephone wires over the tracks of the Detroit, Grand Rapids & Western Railway Company at Third street, Ionia, Michigan.

December 5. Special permit issued to the Michigan Telephone Company to string ten additional telephone wires over the tracks of the Grand Trunk Railway System at Third street, Ionia, Michigan.

December 5. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Pearl street, Mill street and State street, Three Rivers, Michigan.

December 5. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Michigan Central Railroad Company at Flint avenue, Three Rivers, Michigan.

December 6. Special permit issued to the Oceana Telephone Company to string five telephone wires over the tracks of the Flint & Pere Marquette Railroad Company at Fountain, Michigan.

December 6. Special permit issued to E. Bennett & Sons to string four electric light wires over the tracks of the Grand Trunk Railway System at Main street, Morrice, Michigan.

December 6. Special permit issued to the Peninsular Telephone Company to string six telephone wires over the tracks of the Michigan Central Railroad Company at highway about 50 feet west of depot at Snyders, Michigan.

December 6. Special permit issued to the Michigan Telephone Company to string nine telephone wires over the tracks of the Chicago & Northwestern Railway Company at one-fourth mile south of Talbot, Menominee county, Michigan.

December 6. Special permit issued to the Michigan Telephone Company to string two telephone wires over the tracks of the Chicago & Northwestern Railway Company in the village of Carney, county of Menominee, Michigan.

December 8. Special permit issued to the Oceana Telephone Company to string ten telephone wires over the tracks of the Flint & Pere Marquette Railroad Company at Amber station, Mason County, Michigan.

December 8. Special permit issued to the Monroe Gas & Electric Light Company to string one arc wire over the tracks of the Michigan Central Railroad Company at Elm avenue, Monroe, Michigan.

December 9. Special permit issued to the North Parma Telephone Company to string four telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Devereaux, Jackson county, Michigan.

December 9. Special permit issued to the Postal Telegraph-Cable Company to string two telegraph wires over the tracks of the Lake Shore & Michigan Southern Railway Company three quarters of a mile east of Plainwell, Michigan.

December 9. Special permit issued to the M. & J. McLaughlin Telephone Company to string one telephone wire over the tracks of the Grand Trunk Railway System on Cooper street, Jackson, Michigan.

December 11. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & West Michigan Railway and Detroit, Grand Rapids & Western Railroad Companies at Pine street, Big Rapids, Mecosta county, Michigan.

December 11. Special permit issued to the Kalamazoo Valley Electric Company to string three electric light and two telephone wires over the tracks of the Michigan Central Railroad Company just east of the river, on the road running parallel with railroad tracks at Augusta, Michigan.

December 11. Special permit issued to the M. & J. McLaughlin Telephone Company to string one telephone wire over the tracks of the Michigan Central Railroad Company one-half mile north of Leslie; one-half mile south of Eden; one mile north of Eden, Michigan.

December 12. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Ann Arbor Railroad Company at junction, Milan, Michigan.

December 12. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Wabash Railroad Company at junction, Milan, Michigan.

December 12. Special permit issued to the Onsted, Brooklyn & Jackson Toll Line Company to string four telephone wires over the tracks of the Cincinnati Northern Railroad Company at railroad crossing two miles north and one mile west of Clark's Lake; three telephone wires at road crossing at station at Woodstock, Michigan.

December 13. Special permit issued to the M. & J. McLaughlin Telephone Company to string two telephone wires over the tracks of the Michigan Central Railroad Company one-half mile north of Leslie; one-half mile south of Eden, and north of Eden, Michigan.

December 13. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & West Michigan Railway Company at highway crossing three-fourths of a mile northeast of Charlevoix, Michigan.

December 13. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Irwin avenue, Albion, Michigan.

December 15. Special permit issued to the Vassar Electric Light Company to string two electric wires over the tracks of the Michigan Central Railroad Company near station at Vassar, Michigan.

December 15. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & West Michigan Railway Company at the State road crossing in Elk Rapids, Michigan.

December 15. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & West

Michigan Railway Company at the State road crossing in Elk Rapids, Michigan.

December 15. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & West Michigan Railway Company at the State road crossing in Elk Rapids, Michigan.

December 15. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & West Michigan Railway Company at Bay View street, Petoskey, Emmet county, Michigan.

December 15. Special permit issued to A. J. Hostetler of Shipshewana, Indiana, to string six telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company on public highway, one mile south of Constantine, Michigan.

December 15. Special permit issued to the Michigan Telephone Company to string five additional telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at East Vine street, Kalamazoo, Michigan.

December 15. Special permit issued to the Michigan Telephone Company to string nine telephone wires over the tracks of the Escanaba & Lake Superior Railway Company at Escanaba, Delta county, Michigan.

December 15. Special permit issued to the Michigan Telephone Company to string three 50-pair cables over the tracks of the Grand Trunk Railway System at Cass avenue, Detroit, Michigan.

December 15. Special permit issued to the Michigan Telephone Company to string three 50-pair cables over the tracks of the Michigan Central Railroad Company at Cass avenue, Detroit, Michigan.

December 15. Special permit issued to the Michigan Telephone Company to string three 50-pair cables over the tracks of the Lake Shore & Michigan Southern Railway Company at Cass avenue, Detroit, Michigan.

December 15. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Chicago avenue, Alanson, Emmet county, Michigan.

December 15. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at highway crossing in the S. E. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ of Section 27, T. 35 N., R. 5 W., Emmet county, Michigan.

December 16. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Gilbert street, Leroy, Osceola county, Michigan.

December 16. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at highway about two miles north of Paris, Mecosta county, Michigan.

December 16. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at two and one-half miles north of Paris, Mecosta County, Michigan.

December 16. Special permit issued to the Michigan Telephone Com-

pany to string twenty telephone wires over the tracks of the Grand Trunk Railway Company at Ninth street, Muskegon, Michigan.

December 16. Special permit issued to the Michigan Telephone Company to string twenty telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Ninth street, Muskegon, Michigan.

December 16. Special permit issued to the Michigan Telephone Company to string twenty telephone wires over the tracks of the Chicago & West Michigan Railway Company at Ninth street, Muskegon, Michigan.

December 16. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Chicago & West Michigan Railway Company at Hudson street, Muskegon, Michigan.

December 16. Special permit issued to the Michigan Telephone Company to string six telephone wires at Bay View street, Petoskey, Emmet county, Michigan.

December 20. Special permit issued to Plato, Renwick & Company to string eight guy wires over the tracks of the Detroit, Grand Rapids & Western Railway Company at Barryton, Mecosta county, Michigan.

December 20. Special permit issued to M. & J. McLaughlin Telephone Company to string five additional telephone wires over the tracks of the Grand Trunk Railway System at Cooper street, Jackson, Michigan.

December 21. Special permit issued to the Michigan Telephone Company to string two additional telephone wires over the tracks of the Michigan Central Railroad Company on highway just south of city limits of Three Rivers, St. Joseph county, Michigan.

December 21. Special permit issued to the Michigan Telephone Company to string eighteen telephone wires over the tracks of the Chicago & Northwestern Railway Company north of the village of Norway, county of Dickinson, Michigan.

December 21. Special permit issued to the Michigan Telephone Company to string twenty-nine telephone wires over the tracks of the Chicago & Northwestern Railway Company at West Vulcan Mine, Dickinson county, Michigan.

December 21. Special permit issued to the Michigan Telephone Company to string twenty-seven telephone wires over the tracks of the Chicago & Northwestern Railway Company at the east limits of village of Norway, county of Dickinson, Michigan.

December 21. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Chicago & Northwestern Railway Company at East Vulcan, Dickinson county, Michigan.

December 21. Special permit issued to the Michigan Telephone Company to string eight telephone wires over the tracks of the Chicago & Northwestern Railway Company about one mile west of village of Quinnesec, county of Dickinson, Michigan.

December 21. Special permit issued to the Michigan Telephone Company to string eight telephone wires over the tracks of the Chicago & Northwestern Railway Company two miles east of Iron Mountain, county of Dickinson, Michigan.

December 21. Special permit issued to the Michigan Telephone Company to string twenty-seven telephone wires over the tracks of the Chicago & Northwestern Railway Company just east of village of Norway, county of Dickinson, Michigan.

December 21. Special permit issued to the Michigan Telephone Company to string eight telephone wires over the tracks of the Chicago & Northwestern Railway Company in the village of Quinnesec, county of Dickinson, Michigan.

December 21. Special permit issued to the Michigan Telephone Company to string one 50-pair okonite cable at Wabash avenue, corner of Kirby street, Detroit, Michigan, over the tracks of the Grand Trunk Railway System.

December 21. Special permit issued to C. W. Goddard of Bellaire, Michigan, to string one No. 14 galvanized iron wire over the tracks of the Chicago & West Michigan Railway Company just north of depot at Bellaire, Michigan.

December 21. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Grand Trunk Railway System on Main street, also on Elizabeth street, Bellevue, Michigan.

December 21. Special permit issued to the Michigan Southern Telephone Company to string two telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company at first and second highways, south of Three Rivers, Michigan.

December 22. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Elk Rapids Iron Company at the State road in Elk Rapids, Antrim county, Michigan.

December 22. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Elk Rapids Iron Company at the State road in Elk Rapids, Antrim county, Michigan.

December 22. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Grand Trunk Railway System at Fuller street, Grand Rapids, Michigan.

December 22. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Chicago & West Michigan Railway Company at Eleventh street, Grand Rapids, Michigan.

December 22. Special permit issued to the Michigan Telephone Company to string ten telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Eleventh street, Grand Rapids, Michigan.

December 22. Special permit issued to the Michigan Telephone Company to string six additional telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Bay View street, Petoskey, Emmet county, Michigan.

December 22. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at Warren street, Alanson, Emmet county, Michigan.

December 22. Special permit issued to the Michigan Telephone Company to string six telephone wires over the tracks of the Grand Rapids & Indiana Railway Company at one and one-half miles north of Alanson, Emmet county, Michigan.

December 22. Special permit issued to the Adrian Telephone Company to string seven telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company in the alley between Winter and Dennis streets, Adrian, Michigan.

December 23. Special permit issued to the Michigan Telephone Company to string twenty additional telephone wires over the tracks of the Lake Shore & Michigan Southern Railway Company at Berrien street, Albion, Michigan.

December 23. Special permit issued to the Michigan Telephone Company to string one additional No. 9 iron wire over the tracks of the Lake Shore & Michigan Southern Railway Company about one-half mile from Constantine, St. Joseph county, Michigan.

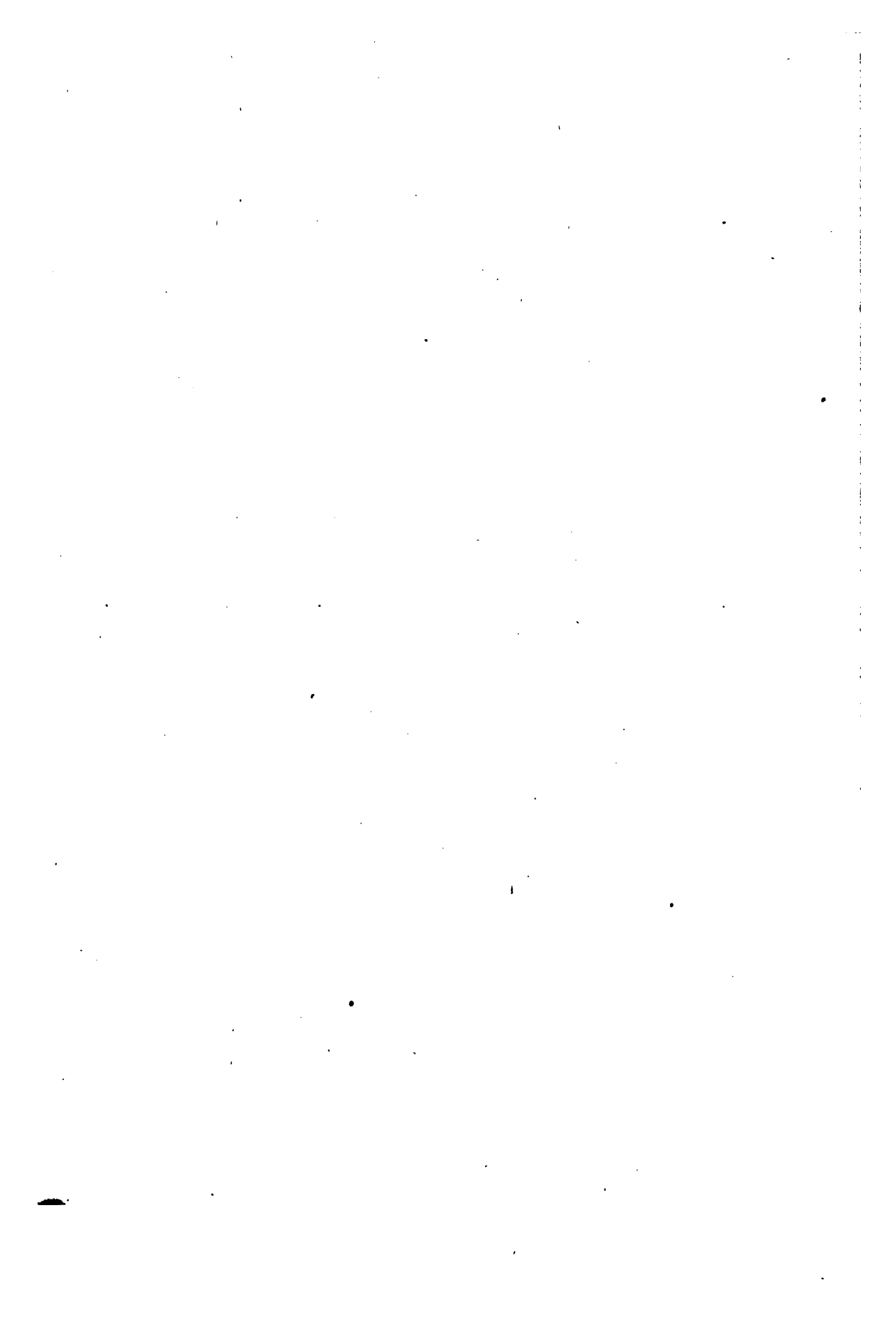
December 23. Special permit issued to the Michigan Telephone Company to string one additional No. 9 iron wire over the tracks of the Lake Shore & Michigan Southern Railway Company about 350 feet southwest of Florence station, St. Joseph county, Michigan.

December 23. Special permit issued to the Michigan Telephone Company to string four telephone wires over the tracks of the Duluth, South Shore & Atlantic Railway Company at a point 462 feet east of mile post No. 152, in the N. W. $\frac{1}{4}$ of N. W. $\frac{1}{4}$ of Section 6, T. 47 N., R. 24 W., Marquette county, Michigan.

December 23. Special permit issued to Ross Brothers & Company of Spalding, Michigan, to string electric wires over the tracks of the Chicago & Northwestern Railway Company at Spalding, Michigan.

December 26. Special permit issued to the Michigan Telephone Company to reconstruct wires over the tracks of the Chicago & West Michigan Railway Company at Hall street, Grand Rapids, Michigan.

December 26. Special permit issued to the Citizens Telephone Company to reconstruct wires over the tracks of the Chicago & West Michigan Railway Company at Hall street, Grand Rapids, Michigan.



STATISTICAL TABLES.

MILEAGE AND TERMINALS OF MICHIGAN RAILROADS.

Mileage.		Railroads.	Terminals in Michigan.
1	286.19	Ann Arbor.....	Ohio state line to Frankfort.
2	23.00	Arcadia & Betsey River.....	Arcadia to Copenish.
3	70.00	Au Sable & Northwestern.....	Au Sable to McKinley, McKinley to Red Oak.
5	25.00	Boyer City & Southeastern.....	Boyer City to Maple Slope.
7	59.37	Chicago, Detroit & C. G. T. Junction.....	Detroit Junction to Fort Gratiot.
8	224.00	Chicago & Grand Trunk.....	Port Huron to Indiana state line.
9	44.43	Chicago, Kalamazoo & Saginaw.....	Kalamazoo to Woodbury.
10	152.08	Chicago, Milwaukee & St. Paul.....	Wisconsin state line to Champion, Channing to Ontonagon.
12	521.19	Chicago & Northwestern.....	Indiana state line to Traverse City, Allegan to Pentwater, Big Rapids Junction to Big Rapids, Rapids, Mears to Hart, Kirk's Junction to Muskegon, Pickand's Junction to Fruitport, Muskegon to Port Sherman, Clary to Honor, Macatawa Junction to Ottawa Beach.
13	579.54	Chicago & West Michigan.....	Traverse City to Bay View, Elk Rapids, Ironton.
14		Chicago & North Michigan.....	Rapid City to Stratford.
15		Grand Rapids, Kalkaska & Southeastern.....	Ohio State line to Jackson.
17	36.88	Cincinnati Northern.....	Durant to West Bay City.
18	53.00	Cincinnati, Saginaw & Mackinaw.....	Indiana state line to Benton Harbor.
19	35.14	Cleveland, Cincinnati, Chicago & St. Louis.....	Detroit to Grand Haven.
20	180.00	Detroit, Grand Haven & Milwaukee.....	Detroit to Grand Rapids, Grand Ledge to Howard City, Stanton Junction to Big Rapids, Detroit to Grand Rapids, Kiddville to Belding, Mecosta to Barryton, Remus to Weidman.
21	380.00	Detroit, Grand Rapids & Western.....	Palmer to Chippewa.
22	132.70	Detroit, Toledo & Milwaukee.....	Dundee to Allegan.
23	56.80	Detroit & Lima Northern.....	Delray to Dundee, Tecumseh to South Adrian, Lima Junction to state line.
24	311.73	Detroit & Mackinac.....	Bay City to Onaway, Emery Junction to Rose City and Prescott, La Rocque to Valentine Lake.
27	464.74	Duluth, South Shore & Atlantic.....	Sault Ste. Marie to Wisconsin state line, Soo Junction to St. Ignace, Nestoria to Houghton, Marquette to Winthrop Junction.
28	697.61	Flint & Pere Marquette.....	Ohio state line to Ludington.
29	16.48	Gogebic & Montreal River (Op'd by Wis. Cent.).....	Ironwood to Bessemer.
31	443.65	Grand Rapids & Indiana System.....	Indiana state line to Mackinaw City, Missaukee Junction to Lake City, Milton Junction to Carey.
32		Muskegon, Grand Rapids & Indiana.....	Grand Rapids to Muskegon.
33		Traverse City.....	Walton Junction to Traverse City.
34	31.90	Hancock & Calumet.....	Hancock to Calumet, Lake Linden, Allouez and Fulton.
35	25.05	St. Jo, South Bend & Southern.....	Indiana state line to St. Joseph.
37	187.08	Lake Shore & Michigan Southern system.....	Ohio state line to Indiana state line, Lenawee Junction to Jackson, Lenawee Junction to Monroe.
38	20.90	Detroit & Chicago.....	Grosvenor to Fayette.
39	64.76	Detroit, Hillsdale & Southwestern.....	Ypsilanti to Bankers.
40	54.76	Detroit, Monroe & Toledo.....	Ohio state line to Detroit.
41	44.52	Fort Wayne & Jackson.....	Indiana state line to Jackson.
42	58.45	Kalamazoo, Allegan & Grand Rapids.....	Kalamazoo to Grand Rapids.
43	36.54	Kalamazoo & White Pigeon.....	White Pigeon to Kalamazoo.
44	61.36	Northern Central Michigan.....	Jonesville to North LaSalle.
45	3.35	Sturgis, Goshen & St. Louis.....	Sturgis to Indiana state line.
46	12.50	Lowell & Hastings.....	Lowell to Freeport.
47	44.71	Manistee & Grand Rapids.....	Manistee to Canfield's Y.
48	107.04	Manistee & Northeastern.....	Manistee to Traverse City, Sherman to Honor.
50	39.50	Manistique.....	Grand Marais to Germfask.

51	53.00	Mainistique & Northwestern.....	South Mainistique to Shingleton, Ackers to Scotts.
52	37.00	Mason & Oceana.....	Buttersville to Stetson.
53	105.00	Michigan Air Line Railway.....	Lenox to Jackson.
54	221.00	Michigan Central System.....	Detroit to Indiana state line.
55	33.80	Battle Creek & Sturgis.....	Battle Creek to Findley.
56	18.00	Bay City & Battle Creek.....	West Bay City to Midland.
59	109.00	Detroit & Bay City.....	Detroit to Bay City.
60	4.84	Detroit, Delray & Dearborn.....	Detroit to Dearborn.
61	83.79	Grand River Valley.....	Jackson to Grand Rapids.
62	322.90	Jackson, Lansing & Saginaw.....	Jackson to Mackinaw City.
63	39.50	Kalamazoo & South Haven.....	Kalamazoo to South Haven.
64	109.10	Michigan Air Line R. R.....	Jackson to Indiana state line.
65	14.68	Michigan Midland & Canada.....	St. Clair to Ridgeway.
66	28.73	Saginaw Bay & Northwestern.....	Pinckney to Gladwin.
67	47.27	Toledo, Canada Southern & Detroit.....	Springwells to Gladwin.
70	26.86	Milwaukee, Benton Harbor & Columbus.....	Benton Harbor to Buchanan.
71	24.68	Mineral Range.....	Houghton to Calumet, Boston Junction to Arcadian Mine, Dollar Bay to Grosse Point.
72	191.09	Minneapolis, St. Paul & Sault Ste. Marie.....	Sault Ste. Marie to Menominee River.
73	45.00	Munising.....	Munising to Little Lake.
74	100.59	Pontiac, Oxford & Northern.....	Pontiac to Caseville.
75	66.57	Saginaw, Tuscola & Huron.....	Saginaw to Bad Axe.
77	96.60	South Haven & Eastern.....	Lawton to South Haven.
80	30.73	Toledo, Saginaw & Muskegon.....	Ashley to Muskegon.
81	75.90	Wisconsin & Michigan.....	Wisconsin state line to Faithorn Junction, Fisher to Ingalls.
82		Wabash.....	Ohio state line to Delray.
ORE AND FOREST ROADS.			
1	18.00	Bear Lake & Eastern.....	Pierpont to Maple Grove.
2	10.00	Crawford & Manistee River.....	Manistee River to Forest terminus.
4	7.50	Hecla & Torch Lake.....	Calumet to Lake Linden.
5	21.01	Lake Superior & Ishpeming.....	Presque Isle to Ishpeming.
6	14.00	Lewiston & Southeastern.....	Lewiston to Forest terminus.
7	67.00	Manistee & Luther.....	Eastlake to Forest terminus.
8	6.00	Quincy & Torch Lake.....	Quincy mine to Quincy mill.

1.—TRACK MILEAGE.

Number of road.	Railroads.	Road owned.		Road operated.	
		Total miles.	Miles in Michigan.	Total miles.	Miles in Michigan.
1	Ann Arbor	291.90	296.19	291.90	296.19
2	Arcadia & Betsey River.....	23.00	23.00	23.00	23.00
3	Au Sable & Northwestern.....	70.00	70.00	70.00	70.00
4	Bay City Belt Line.....	8.09	8.09		
5	Boyne City & Southeastern.....	25.00	25.00		25.00
7	Chicago, Detroit & C. G. T. Junction.....	59.37	59.37	59.37	59.37
8	Chicago & Grand Trunk.....	326.50	224.	335.18	224.
9	Chicago, Kalamazoo & Saginaw.....	44.43	44.43	44.43	44.43
10	Chicago, Milwaukee & St. Paul.....	6,153.83	152.08	6,153.83	152.08
12	Chicago & Northwestern.....	3,828.40	521.19	5,076.69	521.19
13	Chicago & West Michigan.....	488.50	454.03	614.01	579.54
14	Chicago & North Michigan.....	92.61	92.61		
15	Grand Rapids, Kalkaska & Southeastern.....	33.	33.		
17	Cincinnati Northern.....	208.14	39.88	260.27	39.82
18	Cincinnati, Saginaw & Mackinaw.....	53.	53.	53.	53.
19	Cleveland, Cincinnati, Chicago & St. Louis.....	1,804.74	35.14	1,838.11	35.14
20	Detroit, Grand Haven & Milwaukee.....	189.	189.	189.	189.
21	Detroit, Grand Rapids & Western.....	380.	380.	451.	451.
22	Detroit, Toledo & Milwaukee.....	132.70	132.70	172.	137.30
23	Detroit & Lima Northern.....	169.50	56.80	169.50	56.80
24	Detroit & Mackinac.....	311.73	311.73	311.73	311.73
27	Duluth, South Shore & Atlantic.....	572.62	464.74	589.24	474.59
28	Flint & Pere Marquette.....	698.33	697.61	723.24	717.59
29	Gogebic & Montreal River (Op'd by Wis. Cent.).....	16.48	16.48	16.48	16.48
31	Grand Rapids & Indiana System.....	433.91	380.80	582.36	443.05
32	Muskegon, Grand Rapids & Indiana.....	36.85	36.85		
33	Traverse City.....	26.	26.		
34	Hancock & Calumet.....	31.90	31.90	34.85	34.85
36	Terre Haute & Indianapolis (Op'd by Ind. & L. M.).....	39.29	25.05	39.29	25.05
38	Lake Shore & Michigan Southern System.....	906.37	187.68	1,413.44	589.52
39	Detroit & Chicago.....	25.56	20.90		
40	Detroit, Hillsdale & Southwestern.....	64.76	64.76		
41	Detroit, Monroe & Toledo.....	54.76	54.76		
42	Fort Wayne & Jackson.....	97.63	44.52		
43	Kalamazoo, Allegan & Grand Rapids.....	58.45	58.45		
44	Kalamazoo & White Pigeon.....	36.54	36.54		
45	Northern Central Michigan.....	61.36	61.36		
46	Sturgis, Goshen & St. Louis.....	28.93	3.35		
47	Lowell & Hastings.....	12.50	12.50	12.50	12.50
48	Manistee & Grand Rapids.....	44.71	44.71	44.71	44.71
49	Manistee & Northeastern.....	107.94	107.94	107.94	107.94
51	Manistique.....	55.50	55.50	55.50	55.50
52	Manistique & Northwestern.....	53.	53.	53.	53.
53	Mason & Oceana.....	37.	37.	37.	37.
54	Michigan Air Line Railway.....	105.60	105.60	105.60	105.60
55	Michigan Central System.....	270.07	221.	1,387.46	1,136.11
56	Battle Creek & Sturgis.....	41.	41.		
57	Bay City & Battle Creek.....	18.	18.		
58	Buchanan & St. Joseph.....	1.75	1.75		
59	Canada Southern Bridge.....	3.66	3.66		
60	Detroit & Bay City.....	149.90	149.90		
61	Detroit, Delray & Dearborn.....	4.84	4.84		
62	Grand River Valley.....	83.79	83.79		

COMMISSIONER OF RAILROADS.

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1.—TRACK MILEAGE.—CONTINUED.

Track in Michigan.										Number of road.
Main.	Main second.	Sidings and spurs.	Estimated as single track.	Gauge.		Main track, 1897.	In-crease, 1898.	De-crease, 1898.	Track in joint use.	
				Ft.	Inches.					
286.19		67.72	354.94	4	8.5	286.19				1
23.00			23.00	4	8.5	23.				2
70.00		3.00	73.00	3		85.		15.00		3
8.09		4.71	12.80	4	8.5	8.09				4
25.00			25.00	4	8.5	20.00	5.00			5
59.37		26.69	86.06	4	8.5	59.37				7
224.	20.11	83.69	307.69	4	8.5	224.				8
44.43		4.52	48.95	4	8.5	44.20	.23			9
152.08		52.99	205.07	4	8.5	152.08				10
521.19		177.37	698.56	4	8.5	521.19				12
454.03		165.82	619.85	4	8.5	454.03				13
92.61			92.61	4	8.5	92.61				14
33.			33.	4	8.	33.				15
39.88		3.74	43.62	4	8.5	39.88				17
53.		35.29	88.29	4	8.5	53.				18
35.14		8.63	43.77	4	8.5	35.14				19
189.		68.25	257.25	4	8.5	189.				20
380.		96.45	476.45	4	8.5	380.				21
132.70		16.58	149.28	4	8.5	133.		.30		22
56.80		13.50	70.30	4	8.5	17.20	39.60			23
311.73		39.62	351.35	4	8.5	296.20	15.53			24
464.74	2.46	113.59	578.33	4	8.5	465.76		1.02		27
697.61		217.28	914.89	4	8.5	738.90		41.29		28
16.48		13.44	29.92	4	8.5	16.45	.03			29
380.80	3.10	124.14	508.04	4	9.	377.38	3.42			31
36.85		8.38	45.23	4	9.	36.85				32
26.		4.56	30.56	4	9.	26.				33
31.90		12.39	44.29	3	0.	31.90				34
25.05		5.59	30.64	4	8.5	25.05				36
187.68		81.37	269.05	4	8.5	187.68				38
20.90		2.45	28.01	4	8.5	20.90				39
64.76		4.38	69.14	4	8.5	64.76				40
54.76		22.68	77.44	4	8.5	54.76				41
44.52		13.82	111.65	4	8.5	44.52				42
58.45		11.76	70.21	4	8.5	58.45				43
36.54		6.77	43.31	4	8.5	36.54				44
61.36		8.27	69.63	4	8.5	61.36				45
3.35		2.03	30.96	4	8.5	3.35				46
12.50		1.	13.50	4	8.5	12.50				47
44.71		22.10	66.81	4	8.5	44.71				48
107.94		21.	107.94	4	8.5	94.50	13.44			49
55.50		12.50	68.	4	8.5	59.50		4.		51
53.		7.		4	8.5	36.	17.			52
37.			37.	3		37.				53
105.60		9.52	115.22	4	8.5	105.60				54
221.		194.97	415.97	4	8.5	221.				55
41.		3.96	44.96	4	8.5	41.				56
18.		6.79	24.79	4	8.5	18.				57
1.75			1.75	4	8.5	1.75				58
3.66		1.75	5.41	4	8.5	3.66				59
149.90		67.18	217.08	4	8.5	149.90				60
4.84		.32	5.16	4	8.5	4.84				61
83.79		17.05	100.84	4	8.5	83.79				62

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1.—TRACK MILEAGE.—CONTINUED.

Number of road.	Railroads.	Road owned.		Road operated.	
		Total miles.	Miles in Michigan.	Total miles.	Miles in Michigan.
63	Jackson, Lansing & Saginaw.....	322.90	322.90	-----	-----
64	Kalamazoo & South Haven.....	39.50	39.50	-----	-----
65	Michigan Air Line R. R.....	115.16	109.10	-----	-----
66	Michigan Midland & Canada.....	14.68	14.68	-----	-----
67	Saginaw Bay & Northwestern.....	82.57	82.57	-----	-----
68	Toledo, Canada Southern & Detroit.....	58.92	47.27	-----	-----
69	Midland & Hubbard.....	10.	10.	-----	-----
70	Midland & Northern.....	-----	-----	10.	10.
71	Milwaukee, Benton Harbor & Columbus.....	26.86	26.86	26.86	26.86
72	Mineral Range.....	24.68	24.68	24.68	24.68
73	Minneapolis, St. Paul & Sault Ste. Marie.....	1,252.77	208.48	1,272.57	209.74
74	Munising.....	45.	45.	45.	45.
75	Pontiac, Oxford & Northern.....	100.59	100.59	100.59	100.59
76	Saginaw, Tuscola & Huron.....	66.57	66.57	66.57	66.57
77	Sault Ste. Marie Bridge Co.....	1.21	.36	-----	-----
78	South Haven & Eastern.....	36.60	36.60	36.60	36.60
79	St. Clair Tunnel.....	2.25	1.125	2.25	1.125
81	Toledo, Saginaw & Muskegon.....	96.	96.	96.	96.
82	Wiscensin & Michigan.....	63.55	30.73	72.07	31.95
83	Wabash.....	2,151.50	75.90	2,232.	80.5
84	Detroit Union R. R. Depot & Station Co.....	.927	.927	-----	-----
85	The Fort St. Union Depot Co.....	2.96	2.96	-----	-----
ORE AND FOREST ROADS.					
1	Bear Lake & Eastern.....	18.	18.	18.	18.
2	Crawford & Manistee River.....	10.	10.	10.	10.
4	Hecla & Torch Lake.....	7.50	7.50	7.50	7.50
5	Lake Superior & Ishpeming.....	21.01	21.01	21.93	21.93
6	Lewiston & Southeastern.....	10.	10.	10.	10.
7	Manistee & Luther.....	67.	67.	67.	67.
8	Quincy & Torch Lake.....	6.	6.	6.	6.
Total.....		23,530.367	7,825.512	25,441.45	7,902.78

COMMISSIONER OF RAILROADS.

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1.—TRACK MILEAGE.—CONCLUDED.

Track in Michigan.										Number of road.
Main.	Main second.	Sidings and spurs.	Estimated as single track.	Gauge.		Main track, 1897.	In-crease, 1898.	De-crease, 1898.	Track in joint use.	
				Ft.	Inches.					
322.90		237.74	560.64	4	8.5	322.90				63
39.50		5.13	44.63	4	8.5	39.50				64
109.10		24.18	133.25	4	8.5	109.10				65
14.68		.92	15.60	4	8.5	14.68				66
82.57		10.67	93.24	4	8.5	82.63		.06		67
47.27		44.08	91.35	4	8.5	47.27				68
10.			10.	4	8.5	10.				69
26.86		1.61	28.47	4	8.5	26.86				70
24.68		7.21	31.89	4	8.5	17.01	7.67			72
208.48		58.70	267.18	4	8.5	199.23	9.25			73
45.		13.	58.	4	8.5	44.25	.75			74
100.59		8.78	109.35	4	8.5	100.59				75
66.57		15.76	82.33	4	8.5	66.57				76
.36			.36	4	8.5	.36				77
36.60		1.85	38.45	3		36.60				78
1.125			1.125	4	8.5	1.125				79
96.		10.72	106.72	4	8.5	.96				81
30.73		3.55	34.28	4	8.5	30.73				82
75.90		39.60	115.50	4	8.5	75.90				83
.927			.927	4	8.5	9.27				84
2.98			2.98	4	8.5	2.98				85
18.			18.	3		18.				1
10.		3.	10.	3		10.				2
7.50			7.50	4	1.0	7.50				4
21.01		9.02	30.03	4	8.5	21.28		.27		5
10.			10.	3		10.				6
67.		2.81	69.81	3		63.	4.			7
6.		1.38	7.38	3		6.				8
7,825.512	25.67	2,386.27	10,211.782			7,771.512	115.92	61.94		

2.—CAPITAL STOCK.

No. of road.	Railroads.	Par value of shares.	Number of shares issued.
1	Ann Arbor.....	\$100 00	72,500
2	Arcadia & Betsey River.....	100 00	1,400
3	Au Sable & Northwestern.....	100 00	-----
4	Bay City Belt Line.....	100 00	-----
5	Boyne City & Southeastern.....	100 00	500
6	Central Michigan.....	100 00	-----
7	Chicago, Detroit & C. G. T. Junction.....	100 00	10,950
8	Chicago & Grand Trunk.....	100 00	68,000
9	Chicago, Kalamazoo & Saginaw.....	100 00	4,500
10	Chicago, Milwaukee & St. Paul.....	100 00	800,285
12	Chicago & Northwestern.....	100 00	664,823
13	Chicago & West Michigan.....	100 00	74,492
14	Chicago & North Michigan.....	100 00	8,335
15	Grand Rapids, Kalkaska & Southeastern.....	100 00	2,640
17	Cincinnati Northern.....	100 00	-----
18	Cincinnati, Saginaw & Mackinaw.....	100 00	15,000
19	Cleveland, Cincinnati, Chicago & St. Louis.....	100 00	-----
20	Detroit, Grand Haven & Milwaukee.....	50 00	30,000
21	Detroit, Grand Rapids & Western.....	100 00	58,955
22	Detroit, Toledo & Milwaukee.....	100 00	-----
24	Detroit & Mackinac.....	100 00	2,105
27	Duluth, South Shore & Atlantic.....	100 00	220,000
28	Flint & Pere Marquette.....	100 00	98,402
30	Gogebic & Montreal River (Supplementary).....	100 00	8,000
31	Grand Rapids & Indiana System.....	100 00	57,687
32	Muskegon, Grand Rapids & Indiana.....	100 00	200
33	Traverse City.....	100 00	2,050
34	Hancock & Calumet.....	100 00	3,500
35	Indiana & Lake Mich. (Op'd by Terre Haute & I.).....	100 00	8,000
37	Iron Range & Huron Bay.....	100 00	7,640
38	Lake Shore & Michigan Southern System.....	100 00	500,000
39	Detroit & Chicago.....	100 00	10,000
40	Detroit, Hillsdale & Southwestern.....	100 00	13,500
41	Detroit, Monroe & Toledo.....	100 00	4,141
42	Fort Wayne & Jackson.....	100 00	27,275
43	Kalamazoo, Allegan & Grand Rapids.....	100 00	6,100
44	Kalamazoo & White Pigeon.....	100 00	2,309
45	Northern Central Michigan.....	100 00	6,000
46	Sturgis, Goshen & St. Louis.....	100 00	3,000
47	Lowell & Hastings.....	100 00	1,896
48	Manistee & Grand Rapids.....	100 00	450
49	Manistee & Northeastern.....	100 00	20,000
51	Manistique.....	100 00	1,500
52	Manistique & Northwestern.....	100 00	2,500
53	Mason & Oceana.....	100 00	1,500
54	Michigan Air Line Railway.....	100 00	3,000
55	Michigan Central System.....	100 00	187,380
56	Battle Creek & Sturgis.....	100 00	5,000
57	Bay City & Battle Creek.....	100 00	3,000
58	Buchanan & St. Joseph.....	100 00	200
59	Canada Southern Bridge.....	100 00	4,500
60	Detroit & Bay City.....	100 00	6,000
61	Detroit, Delray & Dearborn.....	100 00	35
62	Grand River Valley.....	100 00	4,912
63	Jackson, Lansing & Saginaw.....	100 00	-----
64	Kalamazoo & South Haven.....	100 00	3,254
65	Michigan Air Line R. R.....	50 00	7,856
66	Michigan Midland & Canada.....	100 00	3,000
67	Saginaw Bay & Northwestern.....	100 00	200
68	Toledo, Canada Southern & Detroit.....	100 00	15,476

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2.—CAPITAL STOCK.—CONTINUED.

Amount paid in.						Stock-holders.		No of road.
On common.	On preferred.	On shares not issued.	Total.	Per mile of road.	Amount held in Michigan.	Whole No.	No.in Mich.	
\$3,250,000 00	\$4,000,000 00	-----	\$7,250,000 00	\$24,837 27	\$4,900 00	643	3	1
140,000 00	-----	-----	140,000 00	6,829 27	140,000 00	7	7	2
41,500 00	-----	-----	41,500 00	592 85	41,500 00	8	8	3
100,000 00	-----	-----	100,000 00	12,380 94	51,750 00	9	8	4
-----	50,000 00	-----	50,000 00	2,000 00	50,000 00	7	7	5
638,000 00	-----	-----	638,000 00	-----	13,000 00	14	14	6
978,984 87	-----	-----	978,984 87	16,489 55	200 00	8	2	7
6,600,000 00	-----	-----	6,600,000 00	20,214 40	140,900 00	262	17	8
450,000 00	-----	-----	450,000 00	10,128 29	449,900 00	8	7	9
46,732,600 00	33,293,900 00	-----	80,026,500 00	13,004 34	65,300 00	5,526	14	10
44,083,365 97	22,398,954 56	-----	66,482,320 53	13,251 75	164,200 00	5,030	23	12
7,448,200 00	-----	\$63,600 00	7,511,800 00	12,828 27	7,100 00	616	6	13
810,000 00	-----	-----	810,000 00	8,746 07	69,000 00	8	6	14
264,000 00	-----	-----	264,000 00	8,000 00	264,000 00	7	5	15
2,610,000 00	4,190,000 00	-----	6,800,000 00	32,670 31	-----	-----	-----	17
1,500,000 00	-----	-----	1,500,000 00	28,301 89	676,000 00	11	7	18
27,987,838 00	10,000,000 00	428,997 45	38,416,832 45	21,286 53	24,900 00	2,633	6	19
1,500,000 00	-----	-----	1,500,000 00	7,936 51	200 00	11	4	20
2,510,000 00	3,183,500 00	-----	5,693,500 00	14,982 90	93,000 00	696	8	21
1,500,000 00	-----	-----	1,500,000 00	11,303 69	-----	-----	-----	22
2,000,000 00	105,000 00	-----	2,105,000 00	6,752 64	100 00	5	1	24
12,000,000 00	10,000,000 00	-----	22,000,000 00	38,419 89	473,900 00	317	10	27
3,298,200 00	6,342,000 00	359,800 00	10,000,000 00	14,248 46	40,100 00	1,541	13	28
600,000 00	-----	-----	600,000 00	36,407 77	-----	6	-----	30
5,758,700 00	-----	-----	5,758,700 00	13,271 65	170,300 00	194	6	31
1,000 00	-----	-----	1,000 00	27 14	1,000 00	8	8	32
205,000 00	-----	-----	205,000 00	7,884 62	35,400 00	73	72	33
350,000 00	-----	-----	350,000 00	10,971 79	100,600 00	10	8	34
800,000 00	-----	-----	800,000 00	-----	800,000 00	16	-----	35
814,000 00	-----	-----	814,000 00	-----	814,000 00	10	10	37
49,468,500 00	533,500 00	-----	50,000,000 00	57,471 92	41,400 00	2,436	13	38
1,000,000 00	-----	-----	1,000,000 00	39,123 63	100 00	10	1	39
1,350,000 00	-----	-----	1,350,000 00	20,846 20	1,700 00	335	3	40
414,100 00	-----	-----	414,100 00	7,562 08	100 00	13	1	41
2,727,500 00	-----	-----	2,727,500 00	-----	118,000 00	410	12	42
610,000 00	-----	-----	610,000 00	10,436 27	3,000 00	99	9	43
230,900 00	-----	-----	230,900 00	6,319 10	400 00	8	4	44
600,000 00	-----	-----	600,000 00	9,778 36	300 00	10	3	45
-----	-----	-----	-----	69,132 39	-----	8	-----	46
190,120 00	-----	-----	190,120 00	15,209 60	190,120 00	7	6	47
450,000 00	-----	-----	450,000 00	6,735 52	45,000 00	11	11	48
525,765 97	-----	-----	525,765 97	-----	-----	7	7	49
150,000 00	-----	-----	150,000 00	2,702 70	129,800 00	8	7	51
250,000 00	-----	-----	250,000 00	4,166 66	74,500 00	12	6	52
100,000 00	-----	-----	100,000 00	3,703 70	100,000 00	7	5	53
300,000 00	-----	-----	300,000 00	2,840 91	1,500 00	7	3	54
18,738,000 00	-----	-----	18,738,000 00	69,382 77	101,600 00	1,521	30	55
500,000 00	-----	-----	500,000 00	12,195 12	-----	-----	-----	56
300,000 00	-----	-----	300,000 00	16,666 66	-----	-----	-----	57
5,000 00	-----	-----	5,000 00	2,857 14	5,000 00	7	7	58
450,000 00	-----	-----	450,000 00	122,950 82	6,000 00	15	3	59
1,200,000 00	-----	-----	1,200,000 00	8,005 34	9,000 00	7	3	60
3,500 00	-----	-----	3,500 00	725 21	3,500 00	7	7	61
491,200 00	-----	-----	491,200 00	5,862 27	142,700 00	48	19	62
2,000,000 00	-----	-----	2,000,000 00	6,777 36	1,513,200 00	54	27	63
325,400 00	-----	-----	325,400 00	8,237 97	325,100 00	199	124	64
300,000 00	-----	-----	300,000 00	20,435 96	11,200 00	27	4	65
20,000 00	-----	-----	20,000 00	242 04	-----	-----	-----	66
1,547,662 50	-----	-----	1,547,662 50	26,267 18	1,000 00	16	2	68

2.—CAPITAL STOCK.—CONTINUED.

No. of road.	Railroads.	Par value of shares.	Number of shares issued.
69	Midland & Hubbard.....	\$100 00	-----
70	Midland & Northern.....	100 00	25
71	Milwaukee, Benton Harbor & Columbus.....	100 00	2,700
72	Mineral Range.....	100 00	3,934
73	Minneapolis, St. Paul & Sault Ste. Marie.....	100 00	210,000
74	Munising.....	100 00	8,700
75	Pontiac, Oxford & Northern.....	100 00	10,000
76	Saginaw, Tuscola & Huron.....	100 00	1,233
78	South Haven & Eastern.....	100 00	2,185
79	St. Clair Tunnel.....	100 00	7,000
80	Superior Terminal.....	100 00	610
81	Toledo, Saginaw & Muskegon.....	100 00	16,000
82	Wisconsin & Michigan.....	100 00	9,515
83	Wabash.....	100 00	520,000
84	Detroit Union R. R. Depot & Station Co.....	100 00	10,000
85	The Fort St. Union Depot Co.....	100 00	5,010
ORE AND FOREST ROADS.			
1	Bear Lake & Eastern.....	100 00	1,046
2	Crawford & Manistee River.....	100 00	500
4	Hecla & Torch Lake.....	100 00	1,000
5	Lake Superior & Ishpeming.....	100 00	10,000
6	Lewiston & Southeastern.....	100 00	600
7	Manistee & Luther.....	100 00	4,000
8	Quincy & Torch Lake.....	100 00	500
Total.....		-----	3,865,045

2—CAPITAL STOCK—CONCLUDED.

Amount paid in.						Stock-holders.		No. of road.
On common.	On preferred.	On shares not issued.	Total.	Per mile of road.	Amount held in Michigan.	Whole No.	No. in Mich.	
\$12,000 00	-----	-----	\$12,000 00	\$1,200 00	\$12,000 00	7	7	69
2,500 00	-----	-----	2,500 00	-----	2,500 00	7	7	70
270,000 00	-----	-----	270,000 00	10,000 00	300 00	8	3	71
393,400 00	-----	-----	393,400 00	15,940 03	10,000 00	18	10	72
14,000,000 00	\$7,000,000 00	-----	21,000,000 00	16,762 85	-----	93	-----	73
870,000 00	-----	-----	870,000 00	10,000 00	-----	-----	-----	74
1,000,000 00	-----	-----	1,000,000 00	10,000 00	2,000 00	8	2	75
123,300 00	255 38	-----	123,555 38	1,856 02	60,800 00	123	118	76
218,500 00	-----	-----	218,500 00	5,969 95	200 00	8	2	78
350,000 00	-----	-----	350,000 00	1,565 55	15,000 00	8	2	79
-----	61,000 00	\$200 00	61,200 00	-----	-----	10	7	80
1,600,900 00	-----	-----	1,600,000 00	16,686 67	400 00	9	4	81
951,500 00	-----	-----	951,500 00	14,972 46	120,000 00	46	3	82
28,000,000 00	24,000,000 00	-----	52,000,000 00	32,622 00	-----	-----	-----	83
2,250,000 00	-----	-----	2,250,000 00	-----	2,250,000 00	19	17	84
1,500,000 00	-----	-----	1,000,000 00	-----	28,000 00	18	11	85
104,664 00	-----	-----	104,664 00	5,814 66	104,664 00	7	7	1
50,000 00	-----	-----	50,000 00	5,000 00	50,000 00	7	7	2
100,000 00	-----	-----	100,000 00	13,333 33	20,000 00	5	3	4
1,000,000 00	-----	-----	1,000,000 00	47,596 38	125,100 00	10	2	5
60,000 00	-----	-----	60,000 00	6,000 00	60,000 00	8	8	6
300,000 00	-----	-----	300,000 00	4,347 83	300,000 00	7	7	7
50,000 00	-----	-----	50,000 00	8,333 34	600 00	7	6	8
\$311,923,898 11	\$125,158,109 94	\$852,597,45	\$437,934,595 50	\$18,611 48	\$10,675,034 00	23,393	828	

3.—INDEBTEDNESS.

No. of road.	Railroads.	Funded.	Unfunded.	Total.
1	Ann Arbor.....	\$7,000,000 00	\$510,965 04	\$7,510,965 04
2	Arcadia & Betsey River.....		8,665 39	8,665 39
3	Au Sable & Northwestern.....		151,925 24	151,925 24
4	Bay City Belt Line.....		20,623 93	20,623 93
5	Boyne City & Southeastern.....		69,135 56	69,135 56
6	Central Michigan.....	500,000 00	254,000 00	754,000 00
7	Chicago, Detroit & C. G. T. Junction.....	1,788,141 46		1,788,141 46
8	Chicago & Grand Trunk.....	12,000,000 00	5,182,231 17	17,182,231 17
9	Chicago, Kalamazoo & Saginaw.....		546,941 84	546,941 84
10	Chicago, Milwaukee & St. Paul.....	134,283,000 00	6,316,344 47	140,599,344 47
12	Chicago & Northwestern.....	134,645,000 00	6,547,601 68	141,192,601 68
13	Chicago & West Michigan.....	8,351,777 50	526,222 89	8,878,000 39
15	Grand Rapids, Kalamazoo & Southeastern.....	200,000 00		200,000 00
17	Cincinnati Northern.....	2,500,000 00	151,884 01	2,651,884 01
18	Cincinnati, Saginaw & Mackinaw.....	1,729,000 00	357,176 54	2,086,176 54
19	Cleveland, Cincinnati, Chicago & St. Louis.....	56,157,780 00	4,049,002 68	60,206,782 68
20	Detroit, Grand Haven & Milwaukee.....	5,426,000 00	1,982,516 43	7,408,516 43
21	Detroit, Grand Rapids & Western.....	5,049,168 13	354,926 50	5,404,094 63
22	Detroit, Toledo & Milwaukee.....	1,500,000 00	113,318 30	1,613,318 30
23	Detroit & Lima Northern.....	3,529,000 00		3,529,000 00
24	Detroit & Mackinac.....	2,918,000 00	148,010 19	3,066,010 19
27	Duluth, South Shore & Atlantic.....	23,358,603 83	2,367,836 34	25,726,440 17
28	Flint & Pere Marquette.....	11,324,000 00	573,204 99	11,897,204 99
30	Gogebic & Montreal River (Supplementary).....	520,000 00		520,000 00
31	Grand Rapids & Indiana System.....	9,337,000 00	834,001 65	10,171,001 65
32	Muskegon, Grand Rapids & Indiana.....	750,000 00	112,125 00	862,125 00
33	Traverse City.....	440,000 00	8,175 00	448,175 00
34	Hancock & Calumet.....	400,000 00		400,000 00
38	Lake Shore & Michigan Southern System.....	48,408,500 00		48,408,500 00
41	Detroit, Monroe & Toledo.....	924,000 00		924,000 00
42	Fort Wayne & Jackson.....			
43	Kalamazoo, Allegan & Grand Rapids.....	840,000 00		840,000 00
44	Kalamazoo & White Pigeon.....	400,000 00		400,000 00
45	Northern Central Michigan.....	1,525,000 00		1,525,000 00
46	Sturgis, Goshen & St. Louis.....	322,000 00		322,000 00
47	Lowell & Hastings.....		38,905 00	38,905 00
48	Manistee & Grand Rapids.....		1,409 91	1,409 91
49	Manistee & Northeastern.....		1,572,539 03	1,572,539 03
51	Manistique.....	55,000 00	8,466 88	63,466 88
52	Manistique & Northwestern.....		1,360 56	1,360 56
54	Michigan Air Line Railway.....	1,508,666 67	47,346 10	1,556,012 77
55	Michigan Central System.....	10,000,000 00	1,800,099 10	11,800,099 10
56	Battle Creek & Sturgis.....	500,000 00		500,000 00
57	Bay City & Battle Creek.....	250,000 00		250,000 00
58	Buchanan & St. Joseph.....			
59	Canada Southern Bridge.....	1,000,000 00	1,884,830 19	2,884,830 19
60	Detroit & Bay City.....	3,576,000 00		3,576,000 00
61	Detroit, Delray & Dearborn.....		46,913 90	46,913 90
62	Grand River Valley.....	1,500,000 00		1,500,000 00
63	Jackson, Lansing & Saginaw.....	2,009,000 00		2,009,000 00
64	Kalamazoo & South Haven.....	700,000 00		700,000 00
65	Michigan Air Line R. R.....	2,600,000 00		2,600,000 00
66	Michigan Midland & Canada.....	323,635 00	669,719 56	993,354 56
68	Toledo, Canada Southern & Detroit.....	1,511,737 50	2,677,700 00	4,189,437 50
69	Midland & Hubbard.....		3,586 25	3,586 25

COMMISSIONER OF RAILROADS.

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3.—INDEBTEDNESS.—CONTINUED.

Miles of road covered by indebtedness.	Debt per mile of road.	Indebtedness previously reported.	Increase during 1897.	Decrease during 1897.	Total interest on indebtedness.	No. of road.
291.9	\$25,731 29	\$7,361,860 11	\$149,104 93	-----	\$280,452 21	1
20.5	422 70	3,786 41	4,878 98	-----	-----	2
70.	2,170 36	172,546 60	-----	\$20,621 36	-----	3
8.09	2,549 31	18,169 28	2,464 65	-----	-----	4
25.	2,765 46	63,372 52	5,764 04	-----	3,293 02	5
156.	4,833 33	581,500 00	172,500 00	-----	-----	6
59.37	30,064 92	1,746,141 46	-----	-----	65,700 00	7
326.5	52,625 52	17,567,333 46	-----	375,102 29	740,777 32	8
44.43	12,310 19	543,856 19	3,065 65	-----	13,373 69	9
6,153.83	22,844 20	142,010,479 74	-----	1,431,135 27	7,022,642 93	10
5,076.89	28,128 14	139,661,889 55	1,530,712 13	-----	6,277,001 54	12
581.11	15,277 55	8,646,122 02	231,878 37	-----	420,168 86	13
-----	6,060 60	200,000 00	-----	-----	10,000 00	15
208.14	12,740 86	2,670,576 12	-----	8,692 11	-----	17
53.	39,361 82	2,022,585 98	63,590 56	-----	86,450 00	18
804.74	33,360 33	58,531,430 96	1,675,301 72	-----	2,707,571 00	19
189.	39,198 50	7,350,164 27	58,352 16	-----	316,196 45	20
380.	14,221 30	5,118,735 54	285,359 09	-----	206,686 72	21
132.7	12,157 63	1,613,318 30	-----	-----	300 00	22
212.	16,646 22	2,242,000 00	1,287,000 00	-----	69,836 08	23
311.73	9,835 47	3,038,326 35	27,683 84	-----	116,720 00	24
572.62	44,927 60	25,613,695 95	112,744 12	-----	859,616 67	27
701.83	16,951 69	11,818,242 95	78,362 04	-----	642,896 36	23
16.48	31,553 39	520,000 00	45,283 21	-----	-----	30
433.91	23,440 35	10,125,718 44	-----	-----	435,620 56	31
36.85	23,395 52	352,250 00	9,875 00	-----	37,500 00	32
26.	17,237 50	452,412 78	-----	4,237 78	7,500 00	33
31.90	12,539 18	400,000 00	-----	-----	16,732 97	34
1,101.32	43,955 00	48,247,500 00	161,000 00	-----	2,492,759 91	38
54.76	16,873 63	924,000 00	-----	-----	64,680 00	41
-----	-----	-----	-----	-----	-----	42
58.45	14,371 25	840,000 00	-----	-----	42,000 00	43
36.54	10,946 91	400,000 00	-----	-----	20,000 00	44
61.36	24,853 32	1,525,000 00	-----	-----	122,000 00	45
28.93	11,130 31	322,000 00	-----	-----	9,660 00	46
12.5	3,112 40	38,905 00	-----	-----	1,717 18	47
66.81	21 10	483 38	926 53	-----	-----	48
107.94	14,568 64	1,572,539 03	-----	-----	72,819 54	49
55.5	1,143 55	80,760 11	-----	17,293 23	4,539 61	51
60.	22 67	-----	1,360 56	-----	1,062 49	52
105.60	14,734 97	1,556,130 35	-----	117 58	75,433 33	54
270.07	43,692 74	12,481,861 43	-----	681,762 33	1,096,800 00	55
41.	12,195 12	500,000 00	-----	-----	-----	56
18.	13,888 88	250,000 00	-----	-----	7,500 00	57
-----	-----	-----	-----	-----	-----	58
-----	-----	2,793,983 08	90,847 11	-----	70,000 00	59
149.80	-----	3,576,000 00	-----	-----	-----	60
4.84	9,692 95	46,913 90	-----	-----	-----	61
83.79	-----	1,500,000 00	-----	-----	90,000 00	62
286.10	-----	2,064,000 00	-----	45,000 00	-----	63
39.50	-----	700,000 00	-----	-----	35,000 00	64
-----	-----	2,600,000 00	-----	-----	104,000 00	65
14.68	67,667 20	961,535 25	31,819 31	-----	22,610 00	66
58.92	71,105 18	4,084,517 50	105,000 00	-----	105,000 00	68
10.	368 62	3,586 25	-----	-----	-----	69

3.—INDEBTEDNESS.—CONTINUED.

No. of road	Railroads.	Funded.	Unfunded.	Total.
70	Midland & Northern.....		\$5,200 95	\$5,200 95
71	Milwaukee, Benton Harbor & Columbus.....	\$405,000 00	62,384 89	467,384 89
72	Mineral Range.....	613,300 00	337,815 23	951,115 23
73	Minneapolis, St. Paul & Sault Ste. Marie.....	31,194,516 58	3,187,291 84	34,381,808 42
74	Munising.....	111,000 00	426,460 85	537,460 85
75	Pontiac, Oxford & Northern.....	300,000 00	19,984 53	319,984 53
76	Saginaw, Tuscola & Huron.....		1,395,994 90	1,395,994 90
77	Sault Ste. Marie Bridge Co.....	900,000 00		900,000 00
78	South Haven & Eastern.....	218,000 00	4,045 35	220,045 35
79	St. Clair Tunnel.....	2,500,000 00	1,483 98	2,501,483 98
81	Toledo, Saginaw & Muskegon.....	1,662,000 00	805,518 80	2,467,518 80
82	Wisconsin & Michigan.....	951,000 00	398,198 47	1,349,198 47
83	Wabash.....	81,473,000 00		81,473,000 00
84	Detroit Union R. R. Depot & Station Co.....			
85	The Fort St. Union Depot Co.....	1,329,000 00		1,329,000 00
ORE AND FOREST ROADS.				
1	Bear Lake & Eastern.....		2,723 94	2,723 94
4	Hecla & Torch Lake.....		870,444 90	870,444 90
5	Lake Superior & Ishpeming.....	1,200,000 00	300,279 80	1,500,279 80
7	Manistee & Luther.....		57,938 39	57,938 39
8	Quincy & Torch Lake.....		173,800 24	173,800 24
	Total.....	\$624,492,776 67	\$47,969,359 38	\$672,462,136 05

3.—INDEBTEDNESS.—CONCLUDED.

Miles of road covered by indebtedness.	Debt per mile of road.	Indebtedness previously reported.	Increase during 1897.	Decrease during 1897.	Total interest on indebtedness.	No. of road.
10.	\$520 09	\$5,200 95				70
27.	17,310 55	405,000 00	\$62,384 89		\$20,250 00	71
24.68	38,537 89	899,732 36	51,382 87		22,332 00	72
1,252.77	27,444 63	32,761,038 20	1,620,769 82		1,212,330 70	73
45.	11,943 57	516,327 28	21,123 57		125 00	74
100.	3,199 84	318,869 36	1,115 17		18,000 00	75
66.57	20,970 33	1,319,176 69	76,824 21		77,449 81	76
		900,000 00			45,000 00	77
36.6	6,012 17	217,422 75	2,622 60			78
2.25	1,111,177 06	2,527,568 43		\$28,084 45	125,000 00	79
96.	25,703 32	2,410,901 37	56,617 43		83,100 00	81
63.55	21,230 50	1,278,274 78	70,923 69		53,167 80	82
1,695.2	48,061 00	81,534,000 00		61,000 00	2,693,020 00	83
		1,329,000 00			61,450 00	84
						85
18.	151 33	5,481 32		2,757 38		1
7.5	116,059 32	781,856 64	88,588 26			4
21.01	71,407 89	1,402,752 39	97,527 41		111 31	5
68.80	839 68	736 75	57,201 64			7
6.	28,966 20	165,921 22	7,879 02			8
23,298.58	\$28,863 64	\$666,806,095 15	\$8,349,844 68	\$2,673,803 78	\$29,214,914 96	

4.—COST OF PROPERTY COMPARED WITH STOCK AND DEBT.

No. of road.	Railroads.	Total reported cost of property.	Cost per mile of road.	Proportion of cost for Michigan.
1	Ann Arbor.....	\$14,336,867 38	\$49,508 45	\$14,168,269 47
2	Arcadia & Betsey River.....	113,689 34	7,415 68	148,021 35
3	Au Sable & Northwestern.....	173,000 00	3,507 80	245,546 08
4	Bay City Belt Line.....	115,514 02	14,278 61	115,514 02
5	Boyne City & Southeastern.....	112,033 85	5,601 69	112,033 85
6	Central Michigan.....	1,392,000 00		
7	Chicago, Detroit & C. G. T. Junction.....	2,765,126 13	46,574 47	2,765,126 13
8	Chicago & Grand Trunk.....	19,580,204 49	59,908 74	13,419,558 36
9	Chicago, Kalamazoo & Saginaw.....	917,208 16	20,643 89	917,208 16
10	Chicago, Milwaukee & St. Paul.....	215,198,297 94	34,969 82	5,379,957 45
12	Chicago & Northwestern.....	180,409,341 62	35,960 54	18,742,272 52
13	Chicago & West Michigan.....	12,618,233 78	25,830 57	11,727,653 70
14	Chicago & North Michigan.....	1,809,859 04	19,542 17	1,809,859 04
15	Grand Rapids, Kalkaska & Southeastern.....	464,000 00	14,060 60	464,000 00
17	Cincinnati Northern.....	6,264,026 38	30,026 01	984,836 49
18	Cincinnati, Saginaw & Mackinaw.....	3,229,710 45	60,937 93	3,229,710 45
19	Cleveland, Cincinnati, Chicago & St. Louis.....	88,161,368 27	47,741 70	1,677,643 34
20	Detroit, Grand Haven & Milwaukee.....	7,065,492 33	37,383 56	7,065,492 33
21	Detroit, Grand Rapids & Western.....	10,461,075 41	27,529 15	10,461,075 41
23	Detroit & Lima Northern.....	260,000 00	9,811 32	260,000 00
24	Detroit & Mackinac.....	5,233,016 58	16,819 09	5,233,016 58
27	Duluth, South Shore & Atlantic.....	44,894,946 14	78,402 69	36,436,864 36
28	Flint & Pere Marquette.....	21,866,907 24	31,156 98	21,844,361 77
30	Gogebic & Montreal River (Supplementary).....	1,120,000 00	67,961 16	1,120,000 00
31	Grand Rapids & Indiana System.....	15,245,700 00	35,135 63	13,379,646 84
32	Muskegon, Grand Rapids & Indiana.....	746,978 21	20,270 78	746,978 21
33	Traverse City.....	646,268 15	24,856 47	646,268 15
34	Hancock & Calumet.....	928,117 35	29,031 89	928,117 35
38	Lake Shore & Michigan Southern System.....	84,000,000 00	96,553 00	18,121,067 00
39	Detroit & Chicago.....	5,176,557 58	202,525 73	4,232,787 76
40	Detroit, Hillsdale & Southwestern.....	1,345,716 25	2,780 05	1,345,716 25
41	Detroit, Monroe & Toledo.....	1,381,600 00	25,230 09	1,381,600 00
43	Kalamazoo, Allegan & Grand Rapids.....	1,450,000 00	24,807 53	1,450,000 00
44	Kalamazoo & White Pigeon.....	610,000 00	16,694 03	610,000 00
45	Northern Central Michigan.....	1,357,000 00	22,115 38	1,357,000 00
46	Sturgis, Goshen & St. Louis.....			
47	Lowell & Hastings.....	228,025 00	18,322 00	228,025 00
48	Manistee & Grand Rapids.....	538,392 91	8,068 57	538,392 91
49	Manistee & Northeastern.....	1,847,958 85	171,202 41	1,847,958 85
51	Manistique.....	473,385 43	5,529 47	473,385 43
52	Manistique & Northwestern.....	265,140 53	5,002 65	265,140 53
53	Mason & Oceana.....	97,000 00	3,592 59	97,000 00
54	Michigan Air Line Railway.....	1,818,296 10	17,218 71	1,818,296 10
55	Michigan Central System.....	31,116,257 09	115,215 53	25,462,632 13
56	Battle Creek & Sturgis.....	1,009,602 34	24,620 54	1,009,602 34
57	Bay City & Battle Creek.....	557,502 34	30,972 85	557,502 34
59	Canada Southern Bridge.....	1,780,977 05	486,605 75	1,780,977 05
60	Detroit & Bay City.....	5,200,000 00	34,689 79	5,200,000 00
61	Detroit, Delray & Dearborn.....	50,413 90	10,416 10	50,413 90
62	Grand River Valley.....	2,867,063 00	34,279 17	2,867,063 00
63	Jackson, Lansing & Saginaw.....	8,309,530 16	28,164 84	8,309,530 16
64	Kalamazoo & South Haven.....	1,025,400 00	25,959 50	1,025,400 00
65	Michigan Air Line R. R.....	2,600,000 00	22,577 28	2,463,181 25
66	Michigan Midland & Canada.....	586,342 02	39,941 56	586,342 02
67	Saginaw Bay & Northwestern.....	225,526 15	2,729 35	225,526 15
68	Toledo, Canada Southern & Detroit.....	3,170,157 82	53,804 44	2,543,335 88
69	Midland & Hubbard.....	15,586 25	1,558 62	15,586 25
70	Midland & Northern.....	6,625 49	622 55	6,625 49
71	Milwaukee, Benton Harbor & Columbus.....	712,526 14	26,389 85	26,389 85
72	Mineral Range.....	896,977 73	36,344 32	896,977 73

4.—COST OF PROPERTY COMPARED WITH STOCK AND DEBT.—CONTINUED.

Proportion of cost for Michigan previous year.	Increased cost, 1898.	Decreased cost, 1898.	Total stock and debt.	Stock and debt per mile of road.	Excess of stock and debt over reported cost.	Excess of reported cost over stock and debt.	No. of road
\$14,049,368 66	\$118,900 81		\$14,760,985 04	\$50,568 56	\$424,097 66		1
142,822 26	5,199 09		148,665 39	7,251 97	34,976 05		2
245,546 08			193,425 24	2,793 21	20,425 24		3
113,059 37	2,454 65		120,623 93	14,910 25	5,109 91		4
112,033 85			119,136 56	4,765 46	7,102 71		5
			1,392,000 00	8,923 07			6
2,765,126 13			2,765,126 13	46,574 47			7
13,419,558 36			23,782,231 17	72,839 91	4,222,026 68		8
907,651 71	9,556 45		996,941 84	22,438 48	79,733 68		9
5,329,911 45	50,046 00		214,289,500 00	34,822 13		\$908,797 94	10
18,324,950 15	417,322 37		207,674,922 21	41,379 89	27,265,580 59		12
11,727,853 70			16,390,800 39	28,205 82	3,772,566 61		13
1,809,859 04			2,477,000 00	26,745 71	667,140 96		14
	464,000 00		464,000 00	14,080 60			15
970,670 91	14,165 58		9,431,884 01	45,411 22	3,187,857 63		17
3,229,710 45			3,586,176 54	67,663 71	356,466 09		18
1,677,643 34			98,623,566 13	54,646 96	12,462,196 86		19
7,065,492 33			8,908,516 43	47,135 01	1,843,024 10		20
10,373,915 58	87,159 83		11,097,594 63	29,204 20	636,519 22		21
260,000 00			3,529,000 00	16,646 22	3,269,000 00		23
5,027,520 38	205,496 20		5,171,010 19	16,588 11		62,006 39	24
36,506,294 72		\$88,430 36	47,726,440 17	83,347 49	2,831,494 03		27
21,645,599 58	198,782 19		21,897,204 99	31,200 15	30,297 75		28
1,120,000 00			1,120,000 00	67,961 16			30
13,334,140 09	45,506 75		15,929,701 65	36,712 00	684,001 65		31
746,978 21			863,125 00	23,422 66	116,146 79		32
646,268 15			653,175 00	25,122 12	6,906 85		33
888,745 78	37,371 57		750,000 00	23,510 97		176,117 35	34
18,121,067 00			98,408,500 00	101,427 00	14,408,500 00		38
4,232,787 76			1,000,000 00	39,123 63		4,176,557 58	39
1,345,716 25			1,350,000 00	20,816 20	4,283 75		40
1,381,600 00			1,338,100 00	24,435 71		43,500 00	41
1,450,000 00			1,450,000 00	24,807 53			43
610,000 00			630,900 00	17,266 01	20,900 00		44
1,357,000 00			2,125,000 00	34,631 68	788,000 00		45
			2,322,000 00	80,262 70			46
228,025 00			229,025 00	18,322 00	1,000 00		47
518,549 77	19,843 14		451,409 91	6,766 62		86,983 00	48
1,787,162 33	60,796 52		2,098,305 00	19,439 55	250,346 15		49
480,579 18		7,193 75	213,466 88	3,846 25		259,918 55	51
213,765 01	51,375 52		251,360 56	4,189 33		13,779 97	52
196,000 00		98,000 00					53
1,818,097 33	198 77		1,856,012 77	17,575 88	37,716 67		54
25,462,632 13			30,638,099 10	113,074 75		578,157 99	55
1,009,602 34			1,000,000 00	24,390 24		9,602 34	56
557,502 34			550,000 00	30,555 54		7,502 34	57
1,750,977 05			3,334,890 19		1,553,853 14		59
3,744,297 78	1,455,702 22		1,200,000 00	8,005 34		4,000,000 00	60
50,413 90			50,413 90	10,416 10			61
2,867,053 00			1,991,200 00	23,762 27		875,853 00	62
8,309,530 16			2,009,000 00			6,300,530 16	63
325,400 00	700,000 00		325,400 00	8,237 97		700,000 00	64
2,987,881 73		524,700 48	2,600,000 00				65
586,342 02			1,293,354 56	88,103 17	707,012 54		66
225,526 15			20,000 00	242 04		205,526 15	67
2,543,335 88			5,737,180 00	97,372 37	2,567,022 18		68
15,536 25			15,586 25	1,558 62			69
6,625 49			7,700 95	770 09	1,075 46		70
	26,389 85		737,384 89	27,310 55	24,858 75		71
796,796 25	100,179 48		1,344,515 23	54,477 93	447,537 50		72

4.—COST OF PROPERTY COMPARED WITH STOCK AND DEBT.—CONTINUED.

No. of road.	Railroads.	Total reported cost of property.	Cost per mile of road.	Proportion of cost for Michigan.
73	Minneapolis, St. Paul & Sault Ste. Marie.....	\$52,428,271 50	\$41,848 28	\$8,940,714 44
74	Munising.....	598,761 29	13,905 81	598,761 29
75	Pontiac, Oxford & Northern.....	1,017,442 29	10,174 42	1,017,442 29
76	Saginaw, Tuscola & Huron.....	993,453 69	14,923 44	993,453 69
77	Sault Ste. Marie Bridge Co.	1,900,000 00	560,455 44	560,455 44
78	South Haven & Eastern.....	460,981 08	12,595 10	460,981 08
79	St. Clair Tunnel.....	3,226,483 98	1,433,992 88	1,613,241 99
81	Toledo, Saginaw & Muskegon.....	3,263,798 35	33,997 90	3,263,798 35
82	Wisconsin & Michigan.....	2,136,051 13	33,612 13	1,033,848 75
83	Wabash.....	133,435,500 00	80,772 33	6,138,697 08
84	Detroit Union R. R. Depot & Station Co.	2,364,558 36		2,364,558 36
85	The Fort St. Union Depot Co.	2,291,125 48		2,291,125 48
ORE AND FOREST ROADS.				
1	Bear Lake & Eastern.....	125,491 92	6,971 77	125,491 92
2	Crawford & Manistee River.....	57,184 76	5,718 47	57,184 76
4	Hecia & Torch Lake.....	970,444 90	129,392 65	970,444 90
5	Lake Superior & Ishpeming.....	2,334,551 47	111,116 20	2,334,551 47
6	Lewiston & Southeastern.....	37,713 01	3,771 80	37,713 01
7	Manistee & Luther.....	430,211 49	6,421 07	430,211 49
8	Quincy & Torch Lake.....	236,792 45	39,465 31	236,792 45
	Total.....	\$1,025,741,348 54	\$40,317 76	\$294,290,145 02

4.—COST OF PROPERTY COMPARED WITH STOCK AND DEBT.—CONCLUDED.

Proportion of cost for Michigan previous year.	Increased cost, 1898.	Decreased cost, 1898.	Total stock and debt.	Stock and debt per mile of road.	Excess of stock and debt over reported cost.	Excess of reported cost over stock and debt.	No. of road.
\$8,810,531 02	\$130,183 42	-----	\$55,381,808 42	\$44,207 48	\$2,955,536 92	-----	73
566,710 93	32,050 36	-----	1,407,480 85	31,287 91	808,699 56	-----	74
1,015,708 33	1,733 96	-----	1,319,984 53	13,199 84	302,542 24	-----	75
983,283 86	10,169 83	-----	1,519,550 28	22,826 35	526,096 59	-----	76
560,455 44	-----	-----	1,900,000 00	-----	-----	-----	77
449,313 92	11,667 16	-----	438,546 35	11,982 11	-----	\$22,435 73	78
1,618,322 80	-----	\$5,080 81	2,851,483 98	1,267,326 22	-----	375,000 00	79
3,263,798 35	-----	-----	4,067,518 80	43,369 99	803,720 45	-----	81
979,887 04	53,961 71	-----	2,300,698 47	36,202 96	164,647 34	-----	82
6,138,697 08	-----	-----	133,473,000 00	80,683 00	37,500 00	-----	83
2,364,558 36	-----	-----	2,364,558 36	-----	-----	-----	84
2,325,439 18	-----	34,313 70	2,329,000 00	-----	37,874 52	-----	85
125,491 92	-----	-----	107,387 94	5,965 99	-----	18,103 98	1
57,247 52	-----	62 76	-----	-----	-----	57,184 76	2
881,856 64	88,588 26	-----	970,444 90	129,392 65	-----	-----	4
2,310,668 87	23,882 60	-----	2,500,279 80	119,004 27	165,728 33	-----	5
29,194 23	8,518 78	-----	60,000 00	6,000 00	22,286 99	-----	6
367,545 37	62,666 12	-----	57,938 39	5,187 51	-----	362,273 10	7
228,913 73	7,878 72	-----	223,800 24	37,300 06	-----	12,992 21	8
\$290,526,198 97	\$4,501,727 91	\$737,781 86	\$1,094,634,987 14	\$43,025 64	\$88,539,410 14	\$19,252,822 54	

5.—GROSS INCOME.—ENTIRE SYSTEM.

No. of road.	Railroads.	Traffic earnings.	Operating receipts other than for traffic earnings.	Total receipts from operation.
1	Ann Arbor.....	\$1,355,630 42	\$104,795 86	\$1,460,426 28
2	Arcadia & Betsey River.....	8,645 92	-----	8,645 92
3	Au Sable & Northwestern.....	22,270 49	-----	22,270 49
5	Boyne City & Southeastern.....	43,769 45	-----	43,769 45
7	Chicago, Detroit & C. G. T. Junction.....	245,744 84	2,870 81	248,615 65
8	Chicago & Grand Trunk.....	3,581,586 80	16,696 30	3,598,283 10
9	Chicago, Kalamazoo & Saginaw.....	61,271 12	510 41	61,781 53
10	Chicago, Milwaukee & St. Paul.....	35,850,519 49	273,988 19	36,124,507 68
12	Chicago & Northwestern.....	37,186,507 22	310,473 22	37,496,980 44
13	Chicago & West Michigan.....	1,982,425 82	6,862 85	1,989,288 17
17	Cincinnati Northern.....	502,403 47	17,803 95	520,207 42
18	Cincinnati, Saginaw & Mackinaw.....	136,844 75	831 23	137,675 98
19	Cleveland, Cincinnati, Chicago & St. Louis.....	14,094,124 03	1,111,648 17	15,205,772 20
20	Detroit, Grand Haven & Milwaukee.....	914,430 78	23,191 52	937,622 30
21	Detroit, Grand Rapids & Western.....	1,481,153 22	9,068 95	1,490,222 17
22	Detroit, Toledo & Milwaukee.....	267,564 51	10,656 37	278,220 88
23	Detroit & Lima Northern.....	366,429 90	85,192 46	451,622 36
24	Detroit & Mackinac.....	521,564 28	627 73	522,192 01
27	Duluth, South Shore & Atlantic.....	1,790,901 82	31,532 40	1,822,434 22
28	Flint & Pere Marquette.....	2,667,904 04	22,320 85	2,690,224 89
29	Gogebic & Montreal Riv. (op'd by Wis. Cent.).....	54,098 08	67 68	54,165 76
31	Grand Rapids & Indiana System.....	2,309,292 35	33,211 13	2,342,503 48
34	Hancock & Calumet.....	200,354 92	1,467 49	201,822 41
36	Terre Haute & Indianapolis.....	71,819 81	-----	71,819 81
38	Lake Shore & Michigan Southern System.....	20,182,701 80	514,625 50	20,697,327 30
47	Lowell & Hastings.....	13,307 12	210 00	13,517 12
48	Manistee & Grand Rapids.....	79,034 67	677 00	79,711 67
49	Manistee & Northeastern.....	258,835 71	8,331 65	267,167 36
51	Manistique.....	95,047 95	1,610 62	96,657 57
52	Manistique & Northwestern.....	95,291 28	364 72	95,656 00
53	Mason & Oceana.....	18,596 41	-----	18,596 41
54	Michigan Air Line Railway.....	108,548 56	304 50	108,853 06
55	Michigan Central System.....	13,845,224 19	245,603 22	14,090,827 41
71	Milwaukee, Benton Harbor & Columbus.....	23,376 65	133 98	23,510 63
72	Mineral Range.....	159,691 31	15,622 96	175,314 27
73	Minneapolis, St. Paul & Sault Ste. Marie.....	4,234,535 72	83,746 62	4,318,282 34
74	Munising.....	51,141 53	4,477 00	55,618 53
75	Pontiac Oxford & Northern.....	149,979 75	251 75	150,231 50
76	Saginaw, Tuscola & Huron.....	138,478 79	750 28	139,229 07
77	Sault Ste. Marie Bridge Co.....	64,406 58	-----	64,406 58
78	South Haven & Eastern.....	35,314 64	48 71	35,363 35
79	St. Clair Tunnel.....	255,603 50	16 00	255,619 50
81	Toledo, Saginaw & Muskegon.....	113,984 21	18,139 91	132,124 12
82	Wisconsin & Michigan.....	104,318 63	19,310 26	123,628 89
83	Wabash.....	13,783,507 42	276,874 24	14,060,381 66
84	Detroit Union R. R. Depot & Station Co.....	94,426 80	-----	94,426 80
85	The Fort St. Union Depot Co.....	118,041 81	-----	118,041 81
ORE AND FOREST ROADS.				
1	Bear Lake & Eastern.....	10,112 11	515 00	10,627 11
2	Crawford & Manistee River.....	9,620 73	-----	9,620 73
4	Hecla & Torch Lake.....	84,872 07	-----	84,872 07
5	Lake Superior & Ishpeming.....	121,068 75	7,067 75	128,136 50
6	Lewiston & Southeastern.....	7,669 69	-----	7,669 69
7	Manistee & Luther.....	29,334 43	-----	29,334 43
8	Quincy & Torch Lake.....	31,149 80	-----	31,149 80
	Total.....	\$160,038,479 64	\$3,262,008 24	\$163,300,487 88

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5.—GROSS INCOME—ENTIRE SYSTEM.—CONCLUDED.

Income from sources other than operating.	Total income 1898.	Proportion for Michigan.	Proportion for Michigan 1897.	Increase of income 1898.	Decrease of income 1898.	No. of road.
-----	\$1,460,426 28	\$1,167,145 30	\$1,089,006 00	\$78,139 30	-----	1
-----	8,645 92	8,645 92	5,727 27	2,918 65	-----	2
-----	22,270 49	22,270 49	65,026 36	-----	\$42,755 87	3
-----	43,769 45	43,769 45	30,002 30	13,767 15	-----	5
\$205 00	248,820 65	248,820 65	222,156 96	26,663 70	-----	7
-----	3,598,283 10	2,373,213 67	2,141,389 45	231,824 22	-----	8
-----	61,781 53	61,781 53	56,603 68	5,175 85	-----	9
151,968 31	96,276,475 99	284,696 66	268,283 99	18,431 67	-----	10
-----	37,496,980 44	2,005,149 55	1,813,803 13	191,246 42	-----	12
-----	1,989,288 17	1,877,611 52	1,544,252 48	333,359 04	-----	13
-----	520,207 42	84,355 56	40,814 89	43,540 67	-----	17
-----	137,675 98	137,675 98	125,380 01	12,815 97	-----	18
15,205,772 20	149,986 75	149,986 75	148,877 84	1,120 91	-----	19
907 00	938,529 30	938,529 30	1,036,564 47	-----	98,035 17	20
-----	1,490,222 17	1,490,222 17	1,316,739 50	173,482 67	-----	21
-----	278,220 88	276,402 47	135,211 86	141,190 61	-----	22
-----	451,632 36	139,626 96	162,440 08	-----	23,813 12	23
-----	522,192 01	522,192 01	404,213 93	57,978 08	-----	24
-----	1,822,434 22	1,634,086 06	1,451,206 59	182,880 47	-----	27
96,512 86	2,786,737 75	2,764,967 56	2,453,177 57	311,789 99	-----	28
-----	54,165 76	54,165 76	36,701 12	17,464 64	-----	29
-----	2,342,503 48	2,023,451 83	1,836,671 10	186,780 73	-----	31
-----	201,822 41	201,822 41	169,051 21	32,771 20	-----	34
-----	71,819 81	44,306 67	40,954 23	3,351 44	-----	36
346,809 85	21,044,137 15	2,019,663 09	1,891,068 93	128,594 16	-----	38
-----	13,517 12	13,517 12	13,001 61	515 51	-----	47
152 58	76,864 25	76,864 25	60,467 32	16,396 93	-----	48
-----	267,167 36	267,167 36	240,681 56	26,485 80	-----	49
-----	96,667 57	96,667 57	110,510 05	-----	13,842 48	51
2,162 92	96,818 92	96,818 92	37,604 80	59,214 12	-----	52
-----	16,596 41	16,596 41	12,812 15	3,784 26	-----	53
20 00	108,873 06	108,873 06	113,039 46	-----	4,166 40	54
-----	14,090,827 41	8,165,522 15	7,402,876 95	762,645 20	-----	55
-----	23,510 63	23,510 63	3,719 98	19,790 65	-----	71
-----	175,314 27	175,314 27	139,942 83	35,371 44	-----	72
2,625 00	4,320,907 34	610,707 27	778,066 91	-----	167,359 64	73
-----	55,618 53	55,618 53	60,487 80	-----	4,869 27	74
-----	150,231 50	150,231 50	127,432 54	22,798 96	-----	75
-----	139,229 07	139,229 07	113,969 06	25,260 01	-----	76
-----	64,406 58	64,406 58	17,255 40	47,151 18	-----	77
-----	35,363 35	35,363 35	29,700 80	5,662 55	-----	78
-----	255,619 50	127,809 75	116,576 75	11,233 00	-----	79
-----	132,124 12	132,124 12	121,573 48	10,550 64	-----	81
-----	123,628 89	27,720 45	42,673 72	-----	14,953 27	82
-----	14,069,881 66	649,846 47	371,809 35	278,037 12	-----	83
-----	94,426 80	94,358 91	111,065 64	-----	16,736 73	84
-----	118,041 81	118,041 81	121,899 88	-----	3,858 02	85
-----	10,627 11	10,117 26	8,767 38	1,349 88	-----	1
-----	9,620 73	9,620 73	7,253 89	2,366 84	-----	2
-----	84,872 07	84,872 07	88,131 64	-----	3,259 57	4
-----	128,136 50	128,136 50	116,006 93	12,129 57	-----	5
-----	7,669 69	7,669 69	4,224 22	3,445 47	-----	6
-----	29,334 43	29,334 43	33,226 73	-----	3,892 30	7
-----	31,149 80	31,149 80	29,846 80	1,303 00	-----	8
\$601,263 52	\$163,901,851 40	\$32,122,779 35	\$28,980,041 52	\$3,540,279 67	\$397,541 84	

6.—EXPENSES.

No. of road.	Railroads.	Maintenance of way and structures.	Maintenance of equipment.	Conducting transportation.
1	Ann Arbor.....	\$216,628 71	\$365,995 64	\$517,369 29
2	Arcadia & Betsey River.....	2,775 23	1,276 54	3,687 96
3	Au Sable & Northwestern.....	3,869 53	13,409 77	24,046 04
5	Bohne City & Southeastern.....	3,394 24	2,460 28	11,260 69
7	Chicago, Detroit & C. G. T. Junction.....	43,532 12	29,597 81	162,046 41
8	Chicago & Grand Trunk.....	394,087 65	463,573 81	1,730,905 56
9	Chicago, Kalamazoo & Saginaw.....	12,399 14	2,530 98	19,941 26
10	Chicago, Milwaukee & St. Paul.....	6,236,170 91	2,962,969 61	10,943,212 18
12	Chicago & Northwestern.....	4,920,618 58	4,406,614 16	13,255,832 36
13	Chicago & West Michigan.....	396,929 48	215,248 96	815,605 88
17	Cincinnati Northern.....	116,648 90	78,756 80	218,467 14
18	Cincinnati, Saginaw & Mackinaw.....	27,813 04	7,787 00	66,586 74
19	Cleveland, Cincinnati, Chicago & St. Louis.....	1,951,076 83	1,915,968 26	6,542,888 10
20	Detroit, Grand Haven & Milwaukee.....	148,704 60	66,473 65	425,984 85
21	Detroit, Grand Rapids & Western.....	234,210 64	194,734 98	638,469 34
22	Detroit, Toledo & Milwaukee.....	65,539 08	62,259 20	189,566 07
23	Detroit & Lima Northern.....	51,670 84	51,005 86	289,937 27
24	Detroit and Mackinac.....	110,227 12	46,240 15	166,390 02
27	Duluth, South Shore & Atlantic.....	366,628 83	186,458 87	650,500 40
28	Flint & Pere Marquette.....	381,137 57	281,993 98	1,151,493 81
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....	18,886 37	15,435 98	47,570 50
31	Grand Rapids & Indiana System.....	385,831 58	253,308 66	920,047 51
34	Hancock & Calumet.....	25,137 22	30,492 83	102,728 34
36	Terre Haute & Indianapolis.....	15,344 40	7,593 41	47,751 78
38	Lake Shore & Michigan Southern System.....	2,306,554 90	2,595,712 53	7,954,647 38
47	Lowell & Hastings.....	2,811 83	228 40	7,127 29
48	Manistee & Grand Rapids.....	12,220 42	6,759 76	25,328 03
49	Manistee & Northeastern.....	43,641 63	30,599 09	70,960 13
51	Manistique.....	17,470 23	13,438 26	41,820 32
52	Manistique & Northwestern.....	15,375 86	6,713 83	19,304 71
53	Mason & Oceana.....	3,949 45	3,770 69	8,465 97
54	Michigan Air Line Railway.....	32,305 16	5,886 46	56,251 63
56	Michigan Central System.....	1,963,338 55	1,518,437 04	6,848,878 82
70	Midland & Northern.....			
71	Milwaukee, Benton Harbor & Columbus.....	3,859 44	1,500 41	16,636 06
72	Mineral Range.....	38,416 10	9,065 59	80,746 43
73	Minneapolis, St. Paul & Sault Ste. Marie.....	501,597 15	430,303 38	1,961,860 71
74	Munising.....	7,884 37	4,420 34	29,194 59
75	Pontiac, Oxford & Northern.....	27,103 68	9,808 86	43,336 59
76	Saginaw, Tuscola & Huron.....	36,107 48	13,247 31	40,391 31
77	Sault Ste. Marie Bridge Co.....			
78	South Haven & Eastern.....	5,532 95	2,558 59	16,175 20
79	St. Clair Tunnel.....	6,734 68	61,534 17	18,736 46
81	Toledo, Saginaw & Muskegon.....	33,349 71	9,157 57	59,544 21
82	Wisconsin & Michigan.....	19,029 33	12,991 25	45,507 10
83	Wabash.....	2,088,472 99	2,047,958 40	6,471,365 17
84	Detroit Union R. R. Depot & Station Co.....			
ORE AND FOREST ROADS.				
1	Bear Lake & Eastern.....	2,473 49	1,296 00	2,620 75
2	Crawford & Manistee River.....	5,246 97	2,279 19	1,906 94
4	Hecla & Torch Lake.....	11,945 13		72,926 94
5	Lake Superior & Ishpeming.....	38,143 52	16,037 14	44,011 29
6	Lewiston & Southeastern.....	1,892 53	247 26	4,976 03
7	Manistee & Luther.....	8,519 63	8,823 32	13,506 27
8	Quincy & Torch Lake.....	9,401 44	4,982 05	15,842 44
	Total.....	\$23,372,661 23	\$18,369,929 08	\$61,813,886 27

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6.—EXPENSES.—Concluded.

General expenses, including taxes.	Total expenses, including taxes.	Proportion of expenses and taxes for Michigan.	Same for Michigan previous year.	Increase, 1898.	Decrease, 1898.	No. of road.
\$100,629 39	\$1,200,653 03	\$1,200,653 03	\$907,395 47	\$293,257 56	-----	1
258 03	7,997 76	7,997 76	5,065 86	2,901 90	-----	2
3,234 26	44,559 60	44,559 60	88,292 53	-----	\$43,732 93	3
1,558 18	18,673 39	18,673 39	15,108 92	3,564 47	-----	5
15,467 94	250,644 28	250,644 28	250,004 47	639 81	-----	7
285,854 90	2,814,421 92	1,880,871 50	1,713,288 69	167,582 81	-----	8
8,294 71	43,166 09	43,166 09	37,932 14	5,233 95	-----	9
2,477,992 88	22,620,335 58	252,758 70	233,653 83	19,104 87	-----	10
1,875,482 23	24,458,547 33	2,510,897 47	2,211,473 22	299,424 25	-----	12
120,562 72	1,548,347 04	1,461,424 38	1,223,252 84	238,171 54	-----	13
49,346 27	463,219 11	72,827 77	30,108 23	42,719 54	-----	17
8,979 43	111,166 21	111,166 21	106,687 64	4,478 57	-----	18
1,073,732 59	11,483,665 78	138,515 74	112,159 87	24,355 87	-----	19
59,006 83	700,169 93	700,169 93	779,502 74	-----	79,332 81	20
103,169 91	1,170,584 87	1,170,584 87	984,362 63	186,222 24	-----	21
26,965 28	344,329 63	333,176 77	109,085 54	224,091 23	-----	22
42,363 58	434,967 55	173,966 79	118,658 61	55,328 09	-----	23
25,795 79	348,653 08	248,653 08	351,460 50	-----	2,807 51	24
107,421 25	1,261,009 35	1,115,122 67	976,839 40	138,283 27	-----	27
165,611 10	1,980,236 46	1,964,766 71	1,720,255 65	244,511 06	-----	28
10,346 07	92,238 92	92,238 92	38,629 24	53,609 68	-----	29
138,473 09	1,697,660 84	1,499,640 74	1,395,230 76	104,409 98	-----	31
12,266 33	170,644 72	170,644 72	134,160 78	36,483 94	-----	34
1,679 91	72,369 50	46,140 39	44,728 81	1,411 58	-----	36
1,014,748 88	13,871,663 69	1,750,046 31	1,720,255 65	29,790 66	-----	38
534 77	10,697 29	10,697 29	11,736 49	-----	1,039 20	47
13,676 14	57,984 35	57,984 35	40,340 77	17,643 58	-----	48
16,607 55	161,808 40	161,808 40	139,803 60	22,004 80	-----	49
4,890 50	77,619 31	77,619 31	83,749 43	-----	6,180 12	51
3,783 68	45,178 08	45,178 08	11,792 60	33,385 48	-----	52
410 30	16,596 41	16,596 41	12,812 15	3,784 26	-----	53
6,408 97	100,847 22	100,847 22	112,337 33	-----	11,490 11	54
715,817 77	10,545,972 18	6,292,206 70	6,116,621 56	175,584 15	-----	55
6,076 44	8,318 69	3,318 69	740 21	2,578 48	-----	70
11,770 58	28,072 35	25,072 35	5,261 77	19,810 58	-----	71
274,076 66	139,998 70	139,998 70	68,938 40	71,060 30	-----	72
2,065 18	2,567,637 90	533,000 29	537,368 29	-----	3,799 00	73
11,797 21	43,564 48	43,564 48	38,158 45	5,406 03	-----	74
16,068 46	92,046 34	92,046 34	89,807 23	2,239 11	-----	75
2,451 82	105,804 56	105,804 56	90,485 39	15,319 17	-----	76
20,466 21	13,906 58	13,906 58	2,241 49	11,665 09	-----	77
6,235 06	26,718 56	26,718 56	23,957 53	2,761 03	-----	78
16,222 67	107,470 52	53,735 26	53,290 91	474 35	-----	79
768,817 93	108,286 55	108,286 55	117,479 93	-----	9,193 38	81
969 64	93,750 35	41,531 40	45,064 85	-----	3,553 45	82
181 34	11,376,614 49	562,526 97	242,435 77	320,091 20	-----	83
3,716 19	1,200 00	1,200 00	20,073 62	-----	18,873 62	84
14,370 97	7,359 88	7,359 88	5,556 99	1,802 89	-----	1
105 61	9,613 44	9,613 44	7,191 13	2,422 31	-----	2
3,207 04	88,588 26	88,588 26	88,131 64	456 62	-----	4
923 87	112,562 92	112,562 92	95,387 18	17,175 74	-----	5
969 64	7,221 43	7,221 43	6,066 98	1,154 45	-----	6
181 34	34,056 26	34,056 26	49,810 96	-----	15,754 70	7
3,716 19	31,149 80	31,149 80	29,846 80	1,303 00	-----	8
14,370 97						
105 61						
3,207 04						
923 87						
\$9,650,869 11	\$113,224,770 96	\$26,162,127 21	\$23,454,134 55	\$2,903,699 49	\$195,706 83	

7.—GENERAL EXHIBIT.—REVENUE AND DISBURSEMENTS.

No. of road.	Railroads.	Total revenue from operation.	Total operating expenses in- cluding taxes.	Net result busi-
				Surplus.
1	Ann Arbor.....	\$1,460,425 28	\$1,200,653 03	\$259,773 25
2	Arcadia & Betsey River.....	8,645 92	7,997 76	648 16
3	Au Sable & Northwestern.....	22,270 49	44,559 60	-----
5	Boyne City & Southeastern.....	43,769 45	18,673 39	25,096 06
7	Chicago, Detroit & C. G. T. Junction.....	248,320 65	250,644 23	-----
8	Chicago & Grand Trunk.....	3,598,288 10	2,814,421 92	783,861 18
9	Chicago, Kalamazoo & Saginaw.....	61,781 53	43,166 09	18,615 44
10	Chicago, Milwaukee & St. Paul.....	36,069,731 67	22,127,480 39	13,962,251 28
12	Chicago & Northwestern.....	37,496,980 44	24,458,547 33	13,038,433 11
13	Chicago & West Michigan.....	1,983,519 87	1,548,347 04	435,172 83
17	Cincinnati Northern.....	520,207 42	463,219 11	56,988 31
18	Cincinnati, Saginaw & Mackinaw.....	137,675 98	111,166 21	26,509 77
19	Cleveland, Cincinnati, Chicago & St. Louis.....	15,205,772 20	11,287,267 28	3,918,504 92
20	Detroit, Grand Haven & Milwaukee.....	938,529 30	700,189 93	238,350 37
21	Detroit, Grand Rapids & Western.....	1,490,222 17	1,170,584 87	319,637 30
22	Detroit, Toledo & Milwaukee.....	278,220 88	344,329 63	-----
23	Detroit & Lima Northern.....	451,622 36	434,967 55	16,654 81
24	Detroit & Mackinac.....	522,192 01	348,653 08	173,538 93
27	Duluth, South Shore & Atlantic.....	1,822,434 22	1,261,009 35	561,424 87
28	Eliot & Pere Marquette.....	2,668,871 15	1,980,236 46	688,634 69
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....	54,165 76	92,238 92	-----
31	Grand Rapids & Indiana System.....	2,342,503 48	1,697,600 54	644,842 94
34	Hancock & Calumet.....	201,822 41	170,544 72	31,177 69
38	Lake Shore & Michigan Southern System.....	20,667,327 30	13,871,668 69	6,825,658 61
47	Lowell & Hastings.....	13,517 12	10,697 29	2,819 83
48	Manistee & Grand Rapids.....	76,711 67	57,815 89	18,895 78
49	Manistee & Northeastern.....	267,167 36	161,808 40	105,358 96
51	Manistique.....	96,667 57	77,619 81	19,048 26
52	Manistique & Northwestern.....	94,666 00	45,173 08	49,477 92
53	Mason & Oceana.....	16,596 41	16,596 41	-----
54	Michigan Air Line Railway.....	108,873 06	100,847 22	8,025 84
55	Michigan Central System.....	14,046,148 91	10,545,972 18	3,500,176 73
70	Midland & Northern.....	2,142 00	3,818 69	-----
71	Milwaukee, Benton Harbor & Columbus.....	23,510 63	25,072 35	-----
72	Mineral Range.....	175,314 27	139,998 70	35,315 57
73	Minneapolis, St. Paul & Sault Ste. Marie.....	4,318,282 34	2,567,837 90	1,750,444 44
74	Munising.....	55,618 53	43,564 48	12,054 05
75	Pontiac, Oxford & Northern.....	150,231 50	92,046 34	58,185 16
76	Saginaw, Tuscola & Huron.....	139,229 07	105,804 56	33,424 51
77	Sault Ste. Marie Bridge Co.....	64,406 58	13,906 58	50,500 00
78	South Haven & Eastern.....	35,069 30	26,718 56	8,350 74
79	St. Clair Tunnel.....	255,619 50	107,476 52	148,148 98
81	Toledo, Saginaw & Muskegon.....	132,124 12	108,286 55	23,837 57
82	Wisconsin & Michigan.....	123,628 89	87,817 18	35,811 71
83	Wabash.....	14,069,881 66	11,376,614 49	2,693,267 17
84	Detroit Union R. R. Depot & Station Co.....	94,358 91	1,200 00	93,158 91
85	The Fort St. Union Depot Co.....	118,041 81	118,041 81	-----
ORE AND FOREST ROADS.				
1	Bear Lake & Eastern.....	10,117 26	7,359 88	2,757 38
2	Crawford & Manistee River.....	9,620 73	9,613 44	7 29
4	Hecla & Torch Lake.....	68,588 26	88,588 26	-----
5	Lake Superior & Ishpeming.....	123,136 50	112,562 92	15,573 58
6	Lewiston & Southeastern.....	7,669 69	10,506 93	-----
7	Manistee & Luther.....	29,334 43	34,056 26	-----
8	Quincy & Torch Lake.....	31,149 80	31,149 80	-----
Total.....		\$163,128,209 92	\$112,576,372 45	\$50,690,428 60

COMMISSIONER OF RAILROADS.

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7.—GENERAL EXHIBIT.—REVENUE AND DISBURSEMENTS.—CONCLUDED.

from year's ness.	Payable from income.					No. of road.
Deficit.	Interest on funded debt.	Interest on floating debt.	Rentals, etc.	Dividends.	Totals.	
	\$280,000 00	\$9,452 21		\$29,678 96	\$319,131 17	1
\$22,289 11						2
		3,293 02			3,293 02	3
1,823 63	65,700 00	43,800 00			109,500 00	5
						7
	660,000 00	80,777 32	\$130,622 76		871,400 08	8
		13,373 69			13,373 69	9
	7,022,642 93			4,502,298 00	11,524,940 93	10
	6,277,001 54		20,645 54	3,521,581 25	9,819,228 33	12
	420,168 86	5,768 30			425,937 16	13
			26,792 00		26,792 00	17
	86,450 00				86,450 00	18
	2,707,571 00		196,398 50	500,000 00	3,403,969 50	19
	324,500 00	21,686 45	19,500 00		365,686 45	20
	206,686 72	11,857 53	38,932 81		257,477 06	21
66,106 75		300 00	32,009 19		32,309 19	22
	59,838 08				59,838 08	23
	116,720 00				116,720 00	24
	859,616 67				859,616 67	27
	620,706 28	22,191 08	95,545 75	63,420 00	801,862 11	28
38,073 16						29
	428,835 00	6,785 56			435,620 56	31
	16,250 00	482 97	14,444 72	17,500 00	48,677 69	34
	2,439,409 91	53,350 00	656,488 56	3,462,655 00	6,611,903 47	38
		1,717 18			1,717 18	47
			168 45		168 45	48
		72,819 54			72,819 54	49
	4,350 00	189 51		7,500 00	12,039 51	51
		1,062 49	1,100 43	50,000 00	52,162 92	52
						53
	75,433 33				75,433 33	54
1,176 69	1,096,800 00		1,623,811 69	749,520 00	3,470,121 69	55
1,561 72						70
	20,250 00				20,250 00	71
	17,025 00	5,307 25			22,332 25	72
	1,136,782 66	75,548 04	127,463 01		1,339,793 71	73
	125 00				125 00	74
	18,000 00			25,000 00	43,000 00	75
		77,449 81			77,449 81	76
	900 00	50,500 00			51,400 00	77
						78
	125,000 00				125,000 00	79
	83,100 00				83,100 00	81
	47,550 00	5,617 80	8,788 30		61,956 10	82
	2,693,020 00		51,372 99		2,744,392 99	83
	1,329,000 00				1,329,000 00	84
						85
						1
						2
						4
		111 31			111 31	5
2,836 24						6
4,721 83			1,926 00		1,926 00	7
						8
\$138,591 13	\$29,239,429 98	\$563,441 06	\$3,046,000 70	\$12,929,153 21	\$45,778,024 95	

ANNUAL REPORT OF THE

9.—TRAFFIC EARNINGS.—ENTIRE SYSTEM.

No. of road.	Railroads.	Passenger	
		Passenger fares.	Express and baggage.
1	Ann Arbor.....	\$256,722 83	\$5,739 72
2	Armadia & Betsey River.....	1,188 98	3 50
3	Au Sable & Northwestern.....	2,450 95	-----
5	Boyne City & Southeastern.....	1,125 22	65 75
7	Chicago, Detroit & C. G. T. Junction.....	117,182 18	10,344 02
8	Chicago & Grand Trunk.....	816,684 71	70,785 53
9	Chicago, Kalamazoo & Saginaw.....	21,917 74	956 18
10	Chicago, Milwaukee & St. Paul.....	6,401,853 21	870,479 39
12	Chicago & Northwestern.....	7,912,818 20	568,940 00
13	Chicago & West Michigan.....	602,200 36	39,158 11
17	Cincinnati Northern.....	135,606 44	16,314 11
18	Cincinnati, Saginaw & Mackinaw.....	34,573 46	1,594 65
19	Cleveland, Cincinnati, Chicago & St. Louis.....	4,097,700 41	332,131 96
20	Detroit, Grand Haven & Milwaukee.....	357,496 04	27,100 44
21	Detroit, Grand Rapids & Western.....	558,070 13	24,000 00
22	Detroit, Toledo & Milwaukee.....	43,963 34	9,825 67
23	Detroit & Lima Northern.....	71,401 98	5,294 55
24	Detroit & Mackinac.....	116,491 32	4,175 93
27	Duluth, South Shore & Atlantic.....	481,625 33	49,157 61
28	Flint & Pere Marquette.....	695,015 60	51,702 75
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....	4,984 31	500 92
31	Grand Rapids & Indiana System.....	749,764 46	50,220 55
34	Hancock & Calumet.....	12,816 25	415 57
36	Terre Haute & Indianapolis.....	16,706 55	1,494 68
38	Lake Shore & Michigan Southern System.....	4,281,421 60	620,680 18
47	Lowell & Hastings.....	2,700 00	108 76
48	Manistee & Grand Rapids.....	1,684 17	155 25
49	Manistee & Northeastern.....	45,712 08	1,078 07
51	Manistique.....	10,124 20	-----
52	Manistique & Northwestern.....	3,863 87	-----
53	Mason & Oceana.....	1,690 55	-----
54	Michigan Air Line Railway.....	33,264 63	2,499 96
55	Michigan Central System.....	3,215,296 20	414,064 60
71	Milwaukee, Benton Harbor & Columbus.....	11,701 92	433 64
72	Mineral Range.....	43,559 32	1,778 10
73	Minneapolis, St. Paul & Sault Ste. Marie.....	594,942 50	65,333 45
74	Munising.....	8,080 28	403 41
75	Pontiac, Oxford & Northern.....	45,912 64	2,571 56
76	Saginaw, Tuscola & Huron.....	43,325 94	1,606 99
78	South Haven & Eastern.....	15,619 59	1,141 19
79	St. Clair Tunnel.....	-----	-----
81	Toledo, Saginaw & Muskegon.....	22,261 78	750 60
82	Wisconsin & Michigan.....	13,101 50	214 25
83	Wabash.....	3,772,988 45	327,947 32
ORE AND FOREST ROADS.			
1	Bear Lake & Eastern.....	17 35	-----
2	Crawford & Manistee River.....	-----	-----
4	Hecla & Torch Lake.....	-----	-----
5	Lake Superior & Ishpeming.....	2,323 70	105 72
6	Lewiston & Southeastern.....	-----	-----
7	Manistee & Luther.....	-----	-----
8	Quincy & Torch Lake.....	-----	-----
Total.....		\$35,679,952 27	\$3,581,276 64

COMMISSIONER OF RAILROADS.

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9.—TRAFFIC EARNINGS.—ENTIRE SYSTEM.—CONCLUDED.

department.			Freight department.			Total traffic earnings.	No. of road.
Mails.	Other sources.	Total.	Freights.	Other sources.	Total.		
\$38,215 45	\$7,235 80	\$307,913 80	\$843,246 28	\$204,470 34	\$1,047,716 62	\$1,355,630 42	1
654 81	-----	1,847 29	6,798 63	-----	6,798 63	8,645 92	2
1,710 00	-----	4,160 95	18,109 54	-----	18,109 54	22,270 49	3
312 50	-----	1,503 47	42,076 69	189 29	42,265 98	43,769 45	5
11,085 14	-----	138,611 34	107,133 50	-----	107,133 50	245,744 84	7
89,495 72	-----	976,965 96	2,604,620 84	-----	2,604,620 84	3,581,586 80	8
2,000 40	449 96	25,324 28	35,815 19	131 65	35,946 84	61,271 12	9
1,216,581 52	424,792 53	8,913,708 65	26,936,812 84	-----	26,936,812 84	35,850,519 49	10
896,613 06	-----	9,378,371 26	27,808,135 96	-----	27,808,135 96	37,186,507 22	12
71,005 95	-----	712,364 42	1,270,060 90	-----	1,270,060 90	1,982,425 32	13
17,587 32	-----	169,507 87	332,895 60	-----	332,895 60	502,403 47	17
4,543 84	-----	40,731 95	96,112 80	-----	96,112 80	136,844 75	18
599,023 17	-----	5,028,855 54	9,065,268 49	282,608 63	9,347,877 12	14,376,732 66	19
31,359 16	-----	418,955 64	498,475 14	-----	498,475 14	914,430 78	20
53,808 90	7,091 08	642,970 11	838,183 11	-----	838,183 11	1,481,153 22	21
10,907 49	-----	64,696 50	202,868 01	-----	202,868 01	267,564 51	22
7,910 75	525 24	85,132 52	273,992 07	7,305 31	281,297 38	366,429 90	23
19,696 59	627 73	140,991 57	381,200 44	-----	381,200 44	522,192 01	24
52,809 65	-----	558,592 59	1,199,419 62	7,889 61	1,207,309 23	1,790,801 82	27
71,675 10	4,216 36	822,609 81	1,845,294 23	-----	1,845,294 23	2,667,904 04	28
327 37	-----	5,812 60	48,206 48	79 00	48,285 48	54,088 06	29
51,891 36	10,969 76	892,846 13	1,435,560 78	10,885 44	1,446,446 22	2,809,292 35	31
694 08	9 75	13,935 65	186,419 27	-----	186,419 27	200,854 92	34
2,643 44	93 31	20,937 98	50,881 83	-----	50,881 83	71,819 81	36
1,495,270 36	-----	6,397,372 14	13,687,343 66	97,986 00	13,785,329 66	20,182,701 80	38
553 44	65 55	3,427 75	10,089 87	-----	10,089 87	13,517 12	47
-----	74 00	1,913 42	74,121 25	677 00	74,798 25	76,711 67	48
4,891 16	181 05	51,862 36	206,973 35	-----	206,973 35	258,835 71	49
1,750 36	-----	11,874 56	83,173 39	-----	83,173 39	95,047 95	51
-----	-----	3,863 87	90,427 41	-----	90,427 41	94,291 28	52
1,247 44	-----	2,937 99	13,658 42	-----	13,658 42	16,596 41	53
7,704 76	-----	43,469 35	65,079 21	-----	65,079 21	108,548 56	54
429,825 08	-----	4,069,185 88	9,786,038 31	-----	9,786,038 31	13,845,224 19	55
377 96	-----	12,513 52	10,863 13	-----	10,863 13	23,376 65	71
1,282 86	146 75	46,767 03	112,695 27	229 01	112,924 28	159,691 31	72
167,481 84	26,661 20	854,418 99	3,373,086 63	7,030 10	3,380,116 73	4,234,535 72	73
498 00	-----	8,951 69	42,189 84	-----	42,189 84	51,141 53	74
7,732 90	-----	56,217 10	93,762 65	-----	93,762 65	149,979 75	75
5,428 10	-----	50,393 03	88,115 76	-----	88,115 76	138,478 79	76
1,899 30	-----	18,660 08	16,654 56	-----	16,654 56	35,314 64	78
-----	48,960 00	48,960 00	-----	206,643 50	206,643 50	255,603 50	79
6,764 54	-----	29,776 92	84,207 29	-----	84,207 29	113,984 21	81
1,500 00	-----	14,815 75	83,816 38	5,686 50	89,502 88	104,318 63	82
549,548 81	111,269 80	4,761,754 38	8,830,656 21	201,094 83	9,031,751 04	13,793,505 42	83
-----	-----	17 35	10,094 76	-----	10,094 76	10,112 11	1
-----	-----	-----	9,620 73	-----	9,620 73	9,620 73	2
-----	-----	-----	84,872 07	-----	84,872 07	84,872 07	4
-----	-----	2,429 42	118,639 33	-----	118,639 33	121,068 75	5
-----	-----	-----	7,669 69	-----	7,669 69	7,669 69	6
-----	-----	-----	28,375 71	-----	28,375 71	28,375 71	7
-----	-----	-----	31,149 80	-----	31,149 80	31,149 80	8
\$5,936,299 68	\$643,369 87	\$45,840,898 46	\$113,170,962 42	\$1,032,906 21	\$114,203,868 63	\$160,044,767 09	

10.—ANALYSIS OF EARNINGS AND EXPENSES.—ENTIRE LINE

Number of road.	Railroads.	Miles of road operated.	Total receipts		
			Total income.	Per train	
				Passenger.	Freight.
1	Ann Arbor.....	291.90	\$1,460,426 28	\$0 89.2	\$1 34.04
2	Arcadia & Betsey River.....	23.00	8,645 92		
3	Au Sable & Northwestern.....	70	22,270 49	28	60
5	Boyne City & Southeastern.....	25	43,769 45	17	1 52
7	Chicago, Detroit & C. G. T. Junction.....	59.37	248,615 65	66	1 48
8	Chicago & Grand Trunk.....	335.18	3,598,283 10	90	1 24
9	Chicago, Kalamazoo & Saginaw.....	44.48	61,781 53	43.7	1 28
10	Chicago, Milwaukee & St. Paul.....	6,153.83	36,582,586 86	1 07.18	1 74.93
12	Chicago & Northwestern.....	5,076.89	37,496,980 44	89.61	1 77.11
13	Chicago & West Michigan.....	614.01	1,989,288 17	84	1 39
17	Cincinnati Northern.....	260.27	520,207 42	60	1 20
18	Cincinnati, Saginaw & Mackinaw.....	53	137,675 98	59	2 72
19	Cleveland, Cincinnati, Chicago & St. Louis.....	1,838.11	15,205,772 20	1 05	1 57
20	Detroit, Grand Haven & Milwaukee.....	189	937,622 30	83	1 34
21	Detroit, Grand Rapids & Western.....	461	1,490,222 17	97	1 46
22	Detroit, Toledo & Milwaukee.....	172	278,220 88	32	90
23	Detroit & Lima Northern.....	169.50	451,622 36	26	1 21
24	Detroit & Mackinac.....	811.73	522,192 01	67	1 42
27	Duluth, South Shore & Atlantic.....	589.24	1,822,454 22	97	1 06
28	Flint & Pere Marquette.....	723.24	2,690,224 89	71	1 41
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....	16.48	54,165 76	27	2 18
31	Grand Rapids & Indiana System.....	582.86	2,342,503 48	87	1 58
34	Hancock & Calumet.....	34.85	201,822 41	56	74
36	Terre Haute & Indianapolis.....	39.29	71,819 81	37	1 48
38	Lake Shore & Michigan Southern System.....	1,413.44	20,697,327 30	1 35	1 75
47	Lowell & Hastings.....	12.50	13,517 12	17	50
48	Manistee & Grand Rapids.....	44.71	76,711 67	03	1 35
49	Manistee & Northeastern.....	107.94	267,187 36	51	2 12
51	Manistique.....	55.5	96,667 57	1 90	1 41
52	Manistique & Northwestern.....	53	94,656 00	15.56	3 64
53	Mason & Oceana.....	37	16,596 41	18	75
54	Michigan Air Line Railway.....	106.60	108,853 06	44	1 14
55	Michigan Central System.....	1,387.46	14,090,827 41	96	1 49
70	Midland & Northern.....	10			
71	Milwaukee, Benton Harbor & Columbus.....	26.86	23,510 63	36	62
72	Mineral Range.....	24.68	175,314 27	1 26	1 82
73	Minneapolis, St. Paul & Sault Ste. Marie.....	1,272.57	4,318,282 34	80.91	1 84.15
74	Munising.....	45	55,618 53	34	1 07
75	Pontiac, Oxford & Northern.....	100.50	150,231 50	70	1 02
76	Saginaw, Tuscola & Huron.....	66.57	139,229 07	57	1 73
77	Sault Ste. Marie Bridge Co.	1.21	64,406 58		
78	South Haven & Eastern.....	36.6	35,363 35	28	25
79	St. Clair Tunnel.....	2.25	255,608 50		
81	Toledo, Saginaw & Muskegon.....	96	132,124 12	32	1 47
82	Wisconsin & Michigan.....	72.07	123,628 89	35	2 06
83	Wabash.....	2,232	14,069,881 66	77.90	1 29.47
84	Detroit Union R. R. Depot & Station Co.....	.927	112,890 46		
86	The Fort St. Union Depot Co.....	2.98	118,041 87		
ORE AND FOREST ROADS.					
1	Bear Lake & Eastern.....	18	10,112 11		
2	Crawford & Manistee River.....	10	9,620 73		7 06
4	Hecla & Torch Lake.....	7.50	84,872 07		
5	Lake Superior & Ishpeming.....	21.93	128,136 50	20	2 60
6	Lewiston & Southeastern.....	10	7,669 69		74
7	Manistee & Luther.....	67.00	29,334 43		
8	Quincy & Torch Lake.....	6	31,149 80		02
Total.....		25,441.45	\$163,774,499 78	\$0 97	\$1 69

COMMISSIONER OF RAILROADS.

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10.—ANALYSIS OF EARNINGS AND EXPENSES.—ENTIRE LINE.—CONCLUDED.

from operation.		Operating expenses.				Net per mile operated.		Net per train mile.		Number of road.
mile.	Per mile of road.	Total expenses and taxes.	Per mile of road.	Per train mile.	Per centage of expenses to earnings.	Surplus.	Deficit.	Surplus.	Deficit.	
Total.										
\$1 29.2	\$4,277 90	\$1,200,653 03	\$4,113 23	\$1 24.3	82.22	\$889 94	-----	\$0 26.8	-----	1
421 75	421 75	7,997 76	390 13	-----	92	7,997 76	-----	31 62	-----	2
49	318 15	44,559 60	636 56	99	-----	-----	-----	-----	-----	3
1 20	1,750 78	18,673 39	746 94	51.21	42.50	1,003 84	-----	69	-----	5
88	4,187 56	250,644 28	4,221 73	89	1 00.73	-----	\$30 72	-----	\$0 00.6	7
1 13	10,735 38	2,814,421 92	8,396 75	89	78.22	2,338 63	-----	25	-----	8
71.7	1,390 53	43,166 09	971 56	50.1	69.8	418 98	-----	21.6	-----	9
1 54.26	5,944 69	22,620,335 58	3,675 81	95.39	61.83	2,268 88	-----	58.88	-----	10
1 42.66	7,385 82	24,458,547 33	4,817 63	93.05	65.23	2,568 19	-----	49.61	-----	12
1 13	3,239 83	1,548,347 04	2,521 70	88	77.83	718 13	-----	25	-----	13
93	1,998 72	463,219 11	1,779 76	83	89.04	218 57	-----	10	-----	17
1 38	2,597 66	111,166 21	2,097 48	1 06	80.74	500 18	-----	25	-----	18
1 41	8,272 50	11,483,665 78	6,247 54	1 06	91.01	383 69	-----	12	-----	19
1 07	4,960 97	700,189 93	3,704 60	80	74.80	1,261 16	-----	27	-----	20
1 14	3,304 26	1,170,584 87	2,595 58	90	76.08	708 73	-----	24	-----	21
85	1,617 56	344,329 63	2,001 90	80	1 23.75	-----	-----	-----	-----	22
80	2,130 29	434,987 55	2,051 73	76	90.31	78 56	-----	02	-----	23
1 09.431	1,675 14	348,683 08	1,118 48	73.06	66.76	556 71	-----	26.371	-----	24
1 36.98	3,062 88	1,261,009 35	2,140 06	94.78	69.19	952 80	-----	42.20	-----	27
1 09	3,719 68	1,980,286 46	2,738 00	80	74	950 81	-----	28	-----	28
1 25	3,286 76	92,238 92	5,597 03	2 12.44	1 70.29	-----	-----	-----	-----	29
1 23	4,701 84	1,697,660 84	3,407 52	89	74.11	1,180 69	-----	32	-----	31
73.01	5,791 17	170,644 72	4,896 55	61.73	84.55	894 62	-----	11.28	-----	34
80	1,827 94	72,369 50	1,841 93	80	1 01	-----	-----	-----	-----	36
1 64	14,676 00	13,871,663 69	9,836 25	1 10	67.11	4,840 00	-----	54	-----	38
87	1,081 37	10,697 29	855 78	53	79	225 49	-----	14	-----	47
1 39	1,148 21	57,984 34	867 90	1 05	75.44	282 59	-----	34	-----	48
1 35	2,475 10	161,806 40	1,498 96	81	60.50	976 08	-----	53	-----	49
1 48	1,741 76	77,619 31	1,398 55	1 19	80	343 21	-----	29	-----	51
3 81	1,893 12	46,178 08	1,129 45	1 82	47.7	1,291 02	-----	2 08	-----	52
70	614 68	16,596 41	-----	-----	1 00	-----	-----	-----	-----	53
1 25	1,030 81	100,847 22	954 83	65	92.61	76 09	-----	05	-----	54
44	8,501 10	10,545,972 18	6,362 30	94	75.08	2,111 68	-----	31.082	-----	55
1 76.90	870 76	25,072 35	928 60	48	-----	-----	-----	-----	-----	70
1 49.34	7,103 50	139,998 70	5,672 56	1 41.27	79.86	1,430 94	-----	35.64	-----	72
90	3,893 35	2,567,837 90	2,017 83	88.80	87.37	376 63	-----	14.18	-----	73
87.36	1,235 97	43,564 48	-----	70	78	287 87	-----	19	-----	74
1 01	1,502 31	92,046 34	920 46	58.53	61.27	581 85	-----	33.83	-----	75
54.1	2,091 47	105,804 56	1,589 37	77	75.99	502 10	-----	24	-----	76
88	966 21	13,906 58	730 02	41	75	-----	-----	-----	-----	77
1 45	1,376 29	26,718 56	47,764 67	72	42.09	65,843 99	-----	-----	-----	78
1 08.77	1,714 43	187,470 52	1,127 98	-----	81.96	248 31	-----	16	-----	81
02	6,303 71	108,286 55	-----	-----	76	413 44	-----	35	-----	82
74	766 96	93,750 35	1,302 09	1 10	82.48	1,062 84	-----	18.68	-----	83
02	437 83	11,376,614 49	5,097 05	87.95	-----	-----	-----	-----	-----	84
81 41	5,191 63	1,200 00	-----	-----	-----	-----	-----	-----	-----	85
7 06	561 78	7,359 88	408 88	-----	72.75	-----	-----	-----	-----	1
2 22	962 07	9,613 44	961 34	1 14.17	99.92	962 07	-----	1 41.27	-----	2
74	11,316 27	88,588 25	-----	-----	87.85	710 15	-----	27	-----	4
02	5,842 98	112,562 92	5,132 83	1 95	94.15	-----	-----	-----	-----	5
74	766 96	7,221 43	722 14	7.14	1 16.10	-----	-----	-----	-----	6
02	437 83	34,056 26	-----	-----	1 00	-----	-----	-----	-----	7
81 41	5,191 63	31,149 80	5,191 63	2 09	-----	-----	-----	-----	-----	8
\$1 41	\$6,437 31	\$113,219,452 26	\$4,410 89	\$0 98	\$0 69.13	\$2,026 42	-----	\$0 43.63	-----	

11.—TRAIN MILEAGE AND TRAFFIC.—ENTIRE SYSTEM.

No. of road.	Railroads.	Passenger train, miles.	Freight train, miles.	Total for trains earning revenue.
1	Ann Arbor.....	336, 873	629, 080	965, 953
3	Au Sable & Northwestern.....	—	30, 000	45, 000
5	Boyne City & Southeastern.....	8, 764	27, 700	36, 464
7	Chicago, Detroit & C. G. T. Junction.....	204, 532	59, 035	281, 174
8	Chicago & Grand Trunk.....	1, 086, 670	2, 084, 165	3, 170, 835
9	Chicago, Kalamazoo & Saginaw.....	57, 938	—	86, 094
10	Chicago, Milwaukee & St. Paul.....	8, 036, 823	14, 560, 033	23, 714, 546
12	Chicago & Northwestern.....	10, 343, 041	14, 979, 244	26, 224, 134
13	Chicago & West Michigan.....	846, 040	912, 181	1, 758, 221
17	Cincinnati Northern.....	266, 754	227, 921	559, 153
18	Cincinnati, Saginaw & Mackinaw.....	69, 562	35, 294	104, 856
19	Cleveland, Cincinnati, Chicago & St. Louis.....	4, 741, 625	5, 844, 599	10, 748, 588
20	Detroit, Grand Haven & Milwaukee.....	472, 983	287, 389	873, 819
21	Detroit, Grand Rapids & Western.....	658, 945	572, 216	1, 300, 832
22	Detroit, Toledo & Milwaukee.....	204, 325	221, 164	430, 505
23	Detroit & Lima Northern.....	319, 731	231, 238	566, 743
24	Detroit & Mackinac.....	188, 804	207, 154	477, 188
27	Duluth, South Shore & Atlantic.....	575, 738	651, 833	1, 330, 409
28	Flint & Pere Marquette.....	1, 141, 801	1, 254, 885	2, 472, 160
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....	21, 253	22, 166	43, 419
31	Grand Rapids & Indiana System.....	971, 958	861, 611	1, 906, 391
34	Hancock & Calumet.....	24, 439	250, 011	276, 431
36	Terre Haute & Indianapolis.....	56, 041	34, 275	90, 316
38	Lake Shore & Michigan Southern System.....	4, 748, 428	7, 866, 833	12, 615, 261
47	Lowell & Hastings.....	—	—	20, 000
48	Manistee & Grand Rapids.....	—	55, 246	55, 246
49	Manistee & Northeastern.....	93, 972	91, 019	198, 429
51	Manistique.....	—	40, 186	63, 226
52	Manistique & Northwestern.....	—	—	24, 835
53	Mason & Oceana.....	16, 000	18, 000	34, 000
54	Michigan Air Line Railway.....	83, 075	10, 684	155, 491
55	Michigan Central System.....	4, 217, 144	6, 548, 649	11, 280, 907
71	Milwaukee, Benton Harbor & Columbus.....	35, 100	—	52, 650
72	Mineral Range.....	37, 207	61, 895	99, 102
73	Minneapolis, St. Paul & Sault Ste. Marie.....	985, 982	1, 625, 530	279, 921
74	Munising.....	22, 471	19, 507	62, 038
75	Pontiac, Oxford & Northern.....	63, 100	40, 329	171, 956
76	Saginaw, Tuscola & Huron.....	88, 544	49, 541	138, 085
78	South Haven & Eastern.....	—	—	65, 373
81	Toledo, Saginaw & Muskegon.....	76, 711	10, 373	149, 722
82	Wisconsin & Michigan.....	41, 610	43, 567	85, 177
83	Wabash.....	5, 959, 308	6, 975, 867	12, 985, 175
ORE AND FOREST ROADS.				
2	Crawford & Manistee River.....	—	13, 620	6, 810
5	Lake Superior & Ishpeming.....	11, 944	45, 642	57, 586
6	Lewiston & Southeastern.....	—	10, 296	10, 296
7	Manistee & Luther.....	—	—	—
8	Quincy & Torch Lake.....	—	14, 976	14, 976
Total		47, 115, 236	67, 525, 054	116, 063, 513

11.—TRAIN MILEAGE AND TRAFFIC.—ENTIRE SYSTEM.—CONCLUDED.

Through passengers, number.	Local passengers, number.	Total passengers, number.	Total passengers for previous year, number.	Passengers carried one mile, number.	Passengers carried one mile previous year, number.	No. of road
571	362,297	362,868	326,908	13,028,710	10,820,361	1
3,210		3,210	6,182			3
	1,631	1,631	2,302	37,507	41,433	5
43,766	170,754	214,520	193,745	5,885,984	5,115,490	7
95,906	1,066,188	1,161,094	1,104,593	64,567,501	48,525,061	8
4,848	46,037	50,885	44,438	952,929	770,689	9
215,279	7,130,188	7,345,467	6,959,461	276,172,139	238,579,739	10
141,733	14,732,370	14,874,103	13,681,095	406,384,050	345,461,096	12
7,556	918,969	926,525	788,314	29,680,159	25,263,559	13
19,121	253,453	272,574	149,183	6,633,121	3,634,094	17
6,735	60,143	66,878	62,604	1,558,840	1,514,178	18
451,729	4,786,370	5,238,099	5,027,861	223,974,606	192,941,591	19
2,967	556,794	559,761	576,744	16,924,194	17,145,481	20
27,795	811,997	839,792	679,946	29,513,658	24,633,528	21
9,473	61,844	70,817	49,928	2,339,776	1,643,305	22
27,245	142,294	169,539	92,691	5,991,666	3,672,298	23
	126,941	126,941	106,362	4,674,697	3,869,342	24
59,969	305,708	365,677	337,773	17,724,600	15,388,107	27
37,270	1,011,266	1,048,536	1,010,236	31,643,518	25,549,743	28
15,924	20,448	36,372	30,291	172,049	141,759	29
73,172	1,033,358	1,106,530	1,033,864	36,180,170	30,398,076	31
925	59,140	60,065	57,375	426,129	395,324	34
2,971	31,108	34,079	34,557	895,027	918,726	36
98,458	4,194,115	4,292,573	4,297,745	204,373,574	210,487,402	38
	15,255	15,255	17,712	106,785	123,984	47
	2,698	2,698	3,540	53,461	85,194	48
12,437	80,154	92,591	75,252	2,107,058	1,710,381	49
	12,678	12,678	11,750	253,560	235,000	51
	5,854	5,854	1,668	117,087	36,696	52
	3,522	3,522	3,159	56,352	47,385	53
22	86,671	86,693	82,702	1,520,984	1,275,002	54
212,729	2,387,308	2,600,032	2,456,261	144,505,752	154,405,319	55
11,418	127,882	139,300	126,735	1,436,483	1,312,261	72
58,668	285,442	344,110	285,963	35,745,561	24,618,762	73
	16,099	16,099	13,432	212,602	109,103	74
507	82,928	83,435	67,372	1,779,713	1,398,930	75
8,279	75,798	84,077	73,191	2,128,041	1,881,610	76
2,758	47,100	49,858	44,900	813,490	654,751	78
743	37,022	37,765	32,670	869,818	780,296	81
2,188	16,012	18,200	19,875	410,236	428,580	82
	3,682,547	3,682,547	3,285,996	200,394,267	159,712,820	83
9,128	873	10,001		179,892		2
	999	999	128	31,968	2,688	5
						6
						7
						8
1,665,500	44,910,750	46,576,250	43,256,534	1,772,333,693	1,555,929,717	

12.—TRAFFIC.—ENTIRE SYSTEM.

No. of road.	Railroads.	Average distance travelled by each passenger.	Average fare paid by each passenger.	Average through rate per mile.
1	Ann Arbor.....	35.9	70.7	.96
2	Arcadia & Betsey River.....			
3	Au Sable & Northwestern.....			
5	Boyer City & Southeastern.....	23	69	
7	Chicago, Detroit & C. G. T. Junction.....	26.04	54.625	02.224
8	Chicago & Grand Trunk.....	55.6	70.34	01.01
9	Chicago, Kalamazoo & Saginaw.....	18.727	43.6	01.9
10	Chicago, Milwaukee & St. Paul.....	37.60	87.154	02.290
12	Chicago & Northwestern.....	27.210	52.963	02.072
13	Chicago & West Michigan.....	32.250	64.996	00.972
17	Cincinnati Northern.....	24.3	49.75	2.270
18	Cincinnati, Saginaw & Mackinaw.....	23.3	51.70	01.98
19	Cleveland, Cincinnati, Chicago & St. Louis.....	42.8	78	01.742
20	Detroit, Grand Haven & Milwaukee.....	30.2	63.87	01.93
21	Detroit, Grand Rapids & Western.....	35.144	66.453	01.765
22	Detroit, Toledo & Milwaukee.....	33.04	62.08	1.610
23	Detroit & Lima Northern.....	35.3409	42	00.48
24	Detroit & Mackinac.....	36.825	92.554	
27	Duluth, South Shore & Atlantic.....	48.471	131.706	02.423
28	Flint & Pere Marquette.....	30	66.284	2.051
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....	4.73	13.704	02.841
31	Grand Rapids & Indiana System.....	32.70	68	1.672
34	Hancock & Calumet.....	7.094	21.337	03.169
36	Terre Haute & Indianapolis.....	26.3	49	01.6
38	Lake Shore & Michigan Southern System.....	47.61	99.74	02.069
47	Lowell & Hastings.....	7	17.69	00
48	Manistee & Grand Rapids.....	19.8150	62	00
49	Manistee & Northeastern.....	22.7	49.4	01.8
51	Manistique.....	20	80	
52	Manistique & Northwestern.....	20	66.66	
53	Mason & Oceana.....	16	48	
54	Michigan Air Line Railway.....	17.15	37.505	01.629
55	Michigan Central System.....	55.58	1.237	02.0679
72	Mineral Range.....	10.312	31.270	03.390
73	Minneapolis, St. Paul & Sault Ste. Marie.....	103.88	1.73	01.25
74	Munising.....	13.2059	50	
75	Pontiac, Oxford & Northern.....	21.3	55	02.28
76	Saginaw, Tuscola & Huron.....	25.3106	51.531	01.869
78	South Haven & Eastern.....	16.3	31.3	1.96
81	Toledo, Saginaw & Muskegon.....	23.0	58.95	02.41
82	Wisconsin & Michigan.....	23	7.2	02.86
83	Wabash.....	54.4		02.45
ORE AND FOREST ROADS.				
2	Crawford & Manistee River.....			
4	Hecla & Torch Lake.....			
5	Lake Superior & Ishpeming.....	17.98	23	01.2
7	Manistee & Luther.....	32	96	
8	Quincy & Torch Lake.....			
	Total.....	38.1	76.7	

12.—TRAFFIC.—ENTIRE SYSTEM.—CONCLUDED.

Average local rate per mile.	Average rate per mile for all passengers.	Tons of through freight moved.	Tons of local freight moved.	Total tons of freight moved.	Total tons of freight moved previous year.	No. of road.
01.98	01.97	167,020	1,022,066	1,189,106	1,033,787	1
		4,968	13,983	18,951	19,225	2
		31,159		31,159	93,476	3
03	03	7,253	78,158	85,411	57,145	5
01.995	02.008	46,064	151,247	197,311	168,804	7
01.52	02.26	1,007,414	1,104,470	2,111,884	1,729,948	8
02.4	02.3	55,089	10,227	65,296	65,380	9
02.322	02.318	5,370,495	11,600,479	14,970,974	12,722,387	10
01.936	01.947	517,619	20,103,739	20,621,358	17,622,165	12
02.065	02.015	30,006	1,544,061	1,574,067	1,210,360	13
02.169	02.044	42,070	403,352	445,422	194,153	17
02.30	02.22	55,575	141,339	196,914	148,083	18
01.871	01.830	5,587,373	4,382,938	9,970,311	8,919,971	19
02.12	02.11	104,751	529,337	634,088	596,251	20
01.911	01.891	145,090	726,429	871,519	696,648	21
01.942	01.878	94,065	257,413	351,478	91,185	22
01.63	01.19	81,270	491,670	572,940	347,746	23
	02.492		582,712	582,712	498,496	24
02.929	02.717	583,918	1,643,075	2,226,993	1,779,773	27
02.216	02.196	996,608	1,338,512	2,334,120	1,898,179	28
02.916	02.897	1,006,804	77	1,006,881	727,255	29
02.113	02.072	172,265	1,611,848	1,784,113	1,606,433	31
03.004	03.008	19,190	1,581,906	1,601,096	1,410,986	34
02	01.9	130,802	26,937	157,739	126,309	36
02.102	02.096	2,835,948	12,716,028	15,551,976	14,037,294	38
02.53	02.53		17,949	17,949	17,762	47
23.21	03		186,329	186,329	147,060	48
02.3	02.2	75,396	294,935	370,330	332,066	49
04	04		147,328	147,328	179,898	51
03. 1/2	03. 1/2		232,751	232,751	77,827	52
03			34,653	34,653	25,372	53
02.188	02.187	15,564	105,481	121,045	127,042	54
02.2903	02.2250	2,001,823	6,046,334	8,048,157	7,627,176	55
03.006	03.032	102,613	156,444	259,057	133,772	72
02.31	01.67	1,253,363	1,403,788	2,657,151	2,422,410	73
03.8	03.8	13,807	101,293	115,100	163,251	74
02.59	02.58	2,704	106,742	108,446	94,963	75
02.069	02.036	40,005	94,469	134,474	98,308	76
01.92	01.93	12,810	4,019	16,829	10,384	78
02.57	02.56	10,089	88,830	98,919	109,169	81
02.68	02.77	90,280	73,587	163,867	166,095	82
	01.883		6,678,003	6,678,003	6,104,620	83
		37,063		37,063	23,898	2
			1,531,170	1,531,170	1,419,579	4
02.2	01.3	996,020	114,153	1,109,173	1,062,227	5
03						6
		543,592		543,592	542,623	7
						8
	02.01	22,285,924	80,079,251	102,365,175	96,971,020	

TRAFFIC.—ENTIRE SYSTEMS.

No. of road.	Railroads.	Mileage.			
		Through freight.	Local freight.	Total or tons moved one mile.	Moved one mile previous year.
1	Ann Arbor.....	48,753,138	102,532,307	151,285,445	132,072,169
2	Arcadia & Betsey River.....	—	—	—	—
5	Boyer City & Southeastern.....	4,382	1,062,443	1,066,825	29,440
7	Chicago, Detroit & C. G. T. Junction.....	2,669,627	3,792,472	6,462,099	5,375,581
8	Chicago & Grand Trunk.....	332,547,361	119,447,544	451,994,904	254,562,413
9	Chicago, Kalamazoo & Saginaw.....	956,085	229,127	1,185,212	1,240,345
10	Chicago, Milwaukee & St. Paul.....	744,726,897	2,096,031,436	2,840,758,333	2,361,386,453
12	Chicago & Northwestern.....	201,737,048	2,972,378,017	3,174,115,065	2,633,139,132
13	Chicago & West Michigan.....	3,815,483	126,640,130	130,455,613	93,422,030
17	Cincinnati Northern.....	3,579,595	35,243,566	38,823,162	15,070,325
18	Cincinnati, Saginaw & Mackinaw.....	2,945,475	4,518,281	7,463,756	5,375,696
19	Cleveland, Cincinnati, Chicago & St. Louis.....	1,202,529,766	542,439,641	1,744,969,407	1,518,883,698
20	Detroit, Grand Haven & Milwaukee.....	17,201,214	21,855,490	39,056,704	42,243,024
21	Detroit, Grand Rapids & Western.....	21,724,676	56,208,967	77,933,673	64,354,129
22	Detroit, Toledo & Milwaukee.....	9,735,423	26,269,967	36,005,390	15,361,149
23	Detroit & Lima Northern.....	9,012,398	43,031,330	52,043,728	32,798,239
24	Detroit & Mackinac.....	—	45,411,797	45,411,797	35,139,730
27	Duluth, South Shore & Atlantic.....	68,962,022	37,397,965	106,359,987	92,014,890
28	Flint & Pere Marquette.....	161,716,414	110,566,107	272,282,521	231,350,783
29	Gogebic & Montreal Riv. (Op'd by Wis. C.).....	6,234,342	462	6,234,804	3,708,867
31	Grand Rapids & Indiana System.....	23,642,314	154,402,626	178,044,940	162,321,024
34	Hancock & Calumet.....	157,581	11,453,731	11,591,312	9,372,917
36	Terre Haute & Indianapolis.....	2,100,000	354,005	2,454,005	4,367,506
38	Lake Shore & Michigan Southern System.....	981,679,711	1,790,298,337	2,771,978,098	2,478,436,580
47	Lowell & Hastings.....	—	125,629	125,629	124,334
48	Manistee & Grand Rapids.....	—	7,077,963	7,077,963	5,280,331
49	Manistee & Northeastern.....	2,567,963	9,593,021	12,150,984	10,641,108
51	Manistique.....	—	3,789,945	3,789,945	4,270,890
52	Manistique & Northwestern.....	—	5,818,775	5,818,775	1,713,734
53	Mason & Oceana.....	—	304,464	304,464	304,464
54	Michigan Air Line Railway.....	1,647,546	3,821,437	5,468,983	4,968,835
55	Michigan Central System.....	882,878,010	782,280,068	1,665,158,078	1,533,606,067
72	Mineral Range.....	791,263	1,282,250	2,073,513	1,209,623
73	Minneapolis, St. Paul & Sault Ste. Marie.....	62,944,262	37,353,882	100,298,144	501,604,303
74	Munising.....	425,898	956,108	1,382,006	1,800,861
75	Pontiac, Oxford & Northern.....	242,634	3,208,537	3,450,571	2,962,905
76	Saginaw, Tuscola & Huron.....	1,447,980	3,744,200	5,192,180	3,859,760
78	South Haven & Eastern.....	112,740	84,920	197,660	164,218
81	Toledo, Saginaw & Muskegon.....	1,180,413	4,063,714	5,234,127	5,516,714
82	Wisconsin & Michigan.....	312,381	269,761	582,142	4,413,899
83	Wabash.....	—	1,552,420,414	1,552,420,414	208,853,641
ORE AND FOREST ROADS.					
2	Crawford & Manistee River.....	—	37,063	37,063	28,898
4	Hecla & Torch Lake.....	—	11,483,775	11,483,775	10,746,842
5	Lake Superior & Ishpeming.....	20,688,424	2,094,848	22,783,272	21,308,369
8	Quincy & Torch Lake.....	—	3,261,552	3,261,552	3,255,738
Total.....		4,821,759,866	10,734,508,154	15,556,268,020	15,513,531,684

COMMISSIONER OF RAILROADS.

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TRAFFIC.—ENTIRE SYSTEMS.—CONCLUDED.

Ton haul.			Rates.					No. of road.
Through miles.	Local miles.	All miles.	Average amount each ton haul.	Per ton per mile, through.	Per ton per mile, local.	Per ton per mile, all.	Average per ton per mile, previous year.	
291.9	100.3	127.2	\$0 70.9	\$0 23	\$0 71	\$0 56	\$0 60	1
7	13	12.49	49	2 42	6 82	9 24		2
57.95	25.07	32.57	54.297	1 83	36	49		5
330.1	108.1	214	1 23.33	01.299	01.910	01.658	1 55	7
				00.47	00.87	00.58	58	8
17.36	22.40	18.15	55.4	03	03.1	03	2 80	9
220.95	180.68	189.75	1 79.927	00.771	01.011	00.948	1 00	10
390	148	154	1 35	00.76	00.88	00.88	94	12
127.1573	82.0175	82.8780	80.687	00.744	00.980	00.974	1 08	13
85.0	87.3	87.2	74.73	00.981	01.844	00.857	1 01	17
53	32	37.9	48.81	01.21	01.34	01.29	1 59	18
215.2	123.8	175.0	93.757	00.426	00.779	00.536	58	19
164.2	41.3	61.6	78.61	00.45	01.93	01.28	1 23	20
149.732	77.377	89.423	96.175	00.805	01.180	01.076	1 15	21
103.4	120.0	102.4	57.71	00.472	00.601	00.563	60	22
110.8094	87.5307	90.8030	47.08	00.41	00.63	00.44	58	23
		77.93	65.415			00.8394	95	24
118.102	22.761	47.759	53.858	00.900	01.548	01.123	1 11	27
162.4298	82.6037	79.067	00.392	01.095	01.678		69	28
619	600	6.19	04.79	00.771	23.974	00.773	85	29
137.24	95.79	99.77	.80	57.6	84.2	80.6	84	31
8.212	7.228	7.240	11.643	05.113	01.560	01.608	1 65	34
25	20	24	32	1 13	1 99	1 26	1 08	36
346.2	140.8	17.82	88	00.410	00.540	00.494	54	38
	7	7	56		8	8	7 40	47
	37.9863	37.9863	40		1 06	1 06	1 11	48
33.9	32.5	32.8	55.9	01.7	01.7	01.7	1 80	49
	25.72		55.45		02.2	02.2	2 30	51
	25	25	38.8		1 55	1 55		52
	100	100	39		03.8	03.8	2 50	53
105.60	36.83	45.18	53.764	00.605	01.442	01.190	1 43	54
441	118	191	1.15	0.463	0.728	0.597	61	55
7.711	8.196	8.004	43.502	06.713	04.646	05.435	7 12	72
53	45	51	23	00.4	00.52	00.45	64	73
30.8465	9.4390	12.0070	37	08	03	03	3 00	74
89.5	30.3	31.8	86.63	01.51	02.81	02.72	2 68	75
35.1950	39.6342	38.6110	65.526	1.857	1.635	1.697	1 77	76
8.8	21.1	11.7	98.8	12.7	2.7	8	6 12	78
117.0	45.6	52.9	85.13	00.97	01.79	01.61	1 50	81
12	10	11	43	23	46	43	2 70	82
		232.5	1 32.23			00.569	66	83
10		10	25.95	02.595		02.595	2 51	2
20.79	18.35	20.54	10.69	00.51	00.58	00.52	50	4
		05.75	01		01	01	80	5
								8
216.35	134.04	152.94	\$1 11.57			\$0.73	\$0 77	

14.—TONNAGE AND COMMODITIES MOVED.—ENTIRE SYSTEMS.

No. of road.	Railroads.	Agricultural products. Tons.	Animal products. Tons.	Products of mines. Tons.
1	Ann Arbor.....	73,804	13,995	1,779
2	Arcadia & Betsey River.....	1,723	36	2,459
5	Boyne City & Southeastern.....	1,980	125	36
7	Chicago, Detroit & C. G. T. Junction.....	44,473	6,632	37,151
8	Chicago & Grand Trunk.....	718,375	441,367	118,356
9	Chicago, Kalamazoo & Saginaw.....	9,799	2,672	24,798
10	Chicago, Milwaukee & St. Paul.....	1,699	1,782	426,815
12	Chicago & Northwestern.....	3,793,855	1,185,830	8,110,431
13	Chicago & West Michigan.....	268,454	21,545	205,150
17	Cincinnati Northern.....	110,014	16,622	110,901
18	Cincinnati, Saginaw & Mackinaw.....	22,616	5,735	197,250
19	Cleveland, Cincinnati, Chicago & St. Louis.....	2,508,667	617,161	2,667,071
20	Detroit, Grand Haven & Milwaukee.....	261,706	29,064	82,070
21	Detroit, Grand Rapids & Western.....	238,997	30,028	83,865
22	Detroit, Toledo & Milwaukee.....	49,385	6,104	188,576
23	Detroit & Lima Northern.....	40,161	13,583	355,098
24	Detroit & Mackinac.....	16,858	5,809	12,720
27	Duluth, South Shore & Atlantic.....	158,899	18,444	1,337,541
28	Flint & Pere Marquette.....	507,676	54,869	632,748
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....	3,538	142	991,030
31	Grand Rapids & Indiana System.....	308,777	23,613	312,601
34	Hancock & Calumet.....	4,075	18	1,437,368
36	Terre Haute & Indianapolis.....	49,608	655	43,218
38	Lake Shore & Michigan Southern System.....	2,501,279	931,773	7,433,909
47	Lowell & Hastings.....	6,829	1,606	1,194
48	Manistee & Grand Rapids.....	982	51	16,753
49	Manistee & Northeastern.....	18,496	1,621	24,132
51	Manistique.....			
52	Manistique & Northwestern.....	954	150	2
53	Mason & Oceana.....	600	62	
54	Michigan Air Line Railway.....	38,114	2,746	21,307
55	Michigan Central System.....	1,744,255	731,629	2,122,477
72	Mineral Range.....	17,957	4,409	154,500
73	Minneapolis, St. Paul & Sault Ste. Marie.....	779,778	48,923	583,918
74	Munising.....	2,465	3,245	419
75	Pontiac, Oxford & Northern.....	44,494	6,221	11,885
76	Saginaw, Tuscola & Huron.....	33,245	2,729	65,071
78	South Haven & Eastern.....	4,590	258	680
81	Toledo, Saginaw & Muskegon.....	42,706	4,526	11,027
82	Wisconsin & Michigan.....	8,861	697	10,047
83	Wabash.....	1,835,267	725,434	1,860,849
ORE AND FOREST ROADS.				
2	Crawford & Manistee River.....			
4	Hecia & Torch Lake.....	534		1,500,469
5	Lake Superior & Ishpeming.....			1,100,063
7	Manistee & Luther.....			
8	Quincy & Torch Lake.....			543,592
	Total.....	16,275,535	4,961,450	32,820,256

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14.—TONNAGE AND COMMODITIES MOVED.—ENTIRE SYSTEMS.—CONCLUDED.

Forest products. Tons.	Manufac- tures. Tons.	Mer- chandise. Tons.	Other com- modities. Tons.	Total tonnage.	Total tonnage previous year.	Freight originating on this road.	No. of road.
245,255	91,516	11,322	17,089	1,189,106	1,008,787	454,760	1
14,368	147	-----	-----	18,951	19,225	18,588	2
83,232	680	179	179	85,411	57,145	83,448	5
31,841	26,693	39,687	9,834	197,311	168,804	85,333	7
157,684	157,696	229,592	288,814	2,111,884	1,729,948	721,884	8
11,896	7,385	3,139	5,606	65,295	65,380	27,008	9
516,359	2,255	-----	6,183	955,094	845,852	910,887	10
1,924,117	2,401,902	1,185,357	2,119,966	20,621,358	17,622,165	17,585,272	12
659,566	163,741	143,063	105,177	1,574,067	1,210,360	1,133,549	13
101,115	69,352	17,531	19,887	445,422	194,153	241,823	17
72,781	10,531	12,541	17,760	196,914	148,083	141,746	18
1,052,572	1,652,836	1,168,900	303,114	9,970,311	8,919,971	5,017,876	19
73,670	54,965	101,761	30,912	634,088	596,251	269,104	20
256,236	90,088	107,605	74,695	871,519	695,648	584,066	21
33,428	35,919	25,630	12,336	351,478	91,185	81,730	22
19,128	62,418	29,155	54,487	572,940	321,796	218,826	23
513,003	10,234	19,452	4,236	582,712	498,496	574,863	24
461,484	57,412	74,922	118,295	2,226,993	1,779,773	1,920,843	27
491,514	268,133	206,410	202,770	2,334,120	1,898,179	1,072,199	28
7,831	1,810	1,552	978	1,006,881	727,255	972,828	29
805,494	284,008	18,201	31,419	1,784,113	1,606,433	962,783	31
34,626	9,634	11,139	104,236	1,601,096	1,410,886	1,591,031	34
32,814	16,853	8,143	6,608	157,739	126,211	26,937	36
707,069	2,170,719	463,380	1,043,947	15,551,976	14,037,284	5,004,498	38
3,373	304	1,100	3,295	17,947	17,762	12,129	47
166,671	1,097	295	480	186,329	147,060	161,524	48
314,613	5,160	1,916	4,302	870,330	332,066	245,475	49
140,752	-----	6,578	-----	147,328	179,998	147,328	51
230,998	34	613	-----	232,751	77,897	232,751	52
31,520	71	2,400	-----	34,663	25,372	34,653	53
16,660	14,385	13,502	14,531	121,045	127,042	85,217	54
1,593,581	1,654,042	-----	802,173	8,648,157	7,627,176	4,122,462	55
28,137	18,088	27,741	8,225	259,087	133,772	174,199	72
962,398	162,259	73,281	46,594	2,657,151	2,422,410	1,686,805	73
79,379	6,945	20,109	2,538	115,100	163,251	101,292	74
19,822	12,324	12,567	2,103	108,446	94,983	70,952	75
22,428	-----	-----	11,001	134,474	98,308	129,986	76
3,019	2,645	5,732	-----	16,829	10,184	9,045	78
18,058	6,535	4,983	11,084	98,918	109,169	82,382	81
116,188	11,371	6,386	10,287	163,837	166,095	137,035	82
500,309	529,380	450,040	776,754	6,678,003	6,104,620	-----	83
37,063	-----	-----	-----	37,063	31,147	37,063	2
23,686	5,861	-----	620	1,531,170	1,419,579	1,531,170	4
90	-----	-----	-----	1,109,173	1,062,227	1,079,259	5
29,000	-----	1,000	-----	30,000	33,196	30,000	7
-----	-----	-----	-----	543,592	542,623	543,592	8
12,644,988	10,079,418	4,517,922	6,272,505	88,348,132	76,700,317	50,706,231	-----

15.—EQUIPMENT.

No. of road.	Railroads.	Estimated value.	Locomotives, all classes.	Passenger cars, all classes.	Baggage, mail and express cars.
1	Ann Arbor.....	\$688,272 39	48	22	5
2	Arcadia & Betsey River.....	17,675 99	2	1	—
3	Au Sable & Northwestern.....	—	8	2	2
5	Boyne City & Southeastern.....	29,736 97	3	1	—
7	Chicago, Detroit & C. G. T. Junction.....	—	—	—	—
8	Chicago & Grand Trunk.....	821,415 76	123	24	18
9	Chicago, Kalamazoo & Saginaw.....	28,600 00	4	2	2
10	Chicago, Milwaukee & St. Paul.....	—	836	414	290
12	Chicago & Northwestern.....	16,596,750 00	1,010	554	150
13	Chicago & West Michigan.....	979,350 00	63	44	28
16	Cincinnati, Jackson & Mackinaw.....	—	—	—	—
17	Cincinnati Northern.....	418,350 00	22	17	6
18	Cincinnati, Saginaw & Mackinaw.....	73,714 28	6	7	—
19	Cleveland, Cincinnati, Chicago & St. Louis.....	7,211,005 00	472	297	102
20	Detroit, Grand Haven & Milwaukee.....	341,578 75	25	37	8
21	Detroit, Grand Rapids & Western.....	586,350 00	44	42	23
22	Detroit, Toledo & Milwaukee.....	130,375 00	12	8	—
23	Detroit & Lima Northern.....	376,600 00	25	11	3
24	Detroit & Mackinac.....	361,603 70	21	9	6
27	Duluth, South Shore & Atlantic.....	1,516,225 00	93	37	12
28	Flint & Pere Marquette.....	718,745 00	108	93	24
31	Grand Rapids & Indiana System.....	1,517,800 00	67	71	22
34	Hancock & Calumet.....	120,230 00	9	5	—
38	Lake Shore & Michigan Southern System.....	8,749,386 70	493	325	103
47	Lowell & Hastings.....	7,500 00	2	1	—
48	Manistee & Grand Rapids.....	51,003 43	2	—	—
49	Manistee & Northeastern.....	128,085 82	8	5	2
51	Manistique.....	70,430 48	3	1	—
52	Manistique & Northwestern.....	35,829 77	5	1	—
53	Mason & Oceana.....	30,000 00	5	1	1
55	Michigan Central System.....	5,511,175 00	461	262	111
71	Milwaukee, Benton Harbor & Columbus.....	30,800 00	3	4	—
72	Mineral Range.....	17,300 00	4	7	2
73	Minneapolis, St. Paul & Sault Ste. Marie.....	3,551,014 28	105	62	24
74	Munising.....	100,718 00	3	2	—
75	Pontiac, Oxford & Northern.....	118,845 55	6	7	1
76	Saginaw, Tuscola & Huron.....	107,300 00	10	13	3
78	South Haven & Eastern.....	15,200 00	5	6	2
79	St. Clair Tunnel.....	14,800 00	4	—	—
81	Toledo, Saginaw & Muskegon.....	79,020 80	6	2	4
82	Wisconsin & Michigan.....	308,525 00	7	2	—
83	Wabash.....	4,056,000 00	410	228	108
ORE AND FOREST ROADS.					
1	Bear Lake & Eastern.....	30,215 72	3	1	—
2	Crawford & Manistee River.....	9,325 00	1	—	—
4	Hecla & Torch Lake.....	209,515 00	11	1	—
5	Lake Superior & Ishpeming.....	277,914 11	14	4	—
6	Lewiston & Southeastern.....	5,500 00	3	—	—
7	Manistee & Luther.....	69,950 00	6	1	—
8	Quincy & Torch Lake.....	33,950 00	3	—	—
Total.....		\$56,153,682 50	4,579	2,634	1,062

15.—EQUIPMENT.—CONCLUDED.

Box freight cars.	Stock cars.	Platform and coal cars.	Ore and coal cars.	Conductors' way cars.	All other kinds of cars.	Total cars.	Number of locomotives equipped with train brake.	Cars equipped with power brakes.		No. of road.
								Passenger.	Freight.	
1,875		293		26	17	2,241	43	27	1,128	1
		15		1	42	59	2	1		2
8		12			207	231	8	4		3
		22			70	93	2	1		5
										7
170	3	128		58	13	414	123	42	176	8
2		10		1	16	33	4	4	1	9
23,280	2,779	5,503	245	498	150	33,161	827	765	19,651	10
20,919	2,881	7,395	4,351	546	272	37,068	1,008	901	24,178	12
1,711	25	878		28	27	2,741	63	73	920	13
										16
803	11	126	64	8	7	1,042	22	23		17
28		53		2	1	91	6	7	45	18
9,086	628	1,581	1,323	194	453	13,664	441	379	11,111	19
252	6	136		17	4	460	25	45	231	20
628	41	718		19	12	1,483	44	65	519	21
204	7	85	37	5	3	349	12	8		22
470				12	294	790	25	16		23
145		499		5	275	939	21	14	310	24
1,153		521	689	29	106	2,547	74	49	287	27
1,891	50	1,104		50	443	3,655	85	117	361	28
1,582	49	1,319	75	52	29	3,199	67	93	1,402	31
64		116	244	6	78	513	8	5		34
10,544	842	2,171	5,276	277	366	19,904	493	428	15,025	38
		5				6	1	1		47
4		90		2	1	97	2			48
8		275		5	1	296	8	7	1	49
3		93		3	40	140	3	1		51
3		25		2	112	143	5	1		52
3		60			160	230				53
8,858	908	2,649	611	252	211	13,862	429	373	7,148	55
11		20		1		36	3	4	17	71
					1	10	3	8		72
5,382	100	685	150	71	173	6,647	104	86	3,654	73
		165		2	50	219	3	2	155	74
46	4	61		1		120	6	8		75
27		116		3	50	212	10	16		76
14		12				34	2	3	1	78
				9		9	4			79
76		32		2		116	6	6	75	81
469		110		2	4	587	5	2	11	82
7,182	921	976	3,762	215	82	13,474	409	336	4,574	83
		53			14	71				1
		41			2	43				2
4	30	45	350	3	4	467				4
		20	440	4	10	478	14	4	460	5
		33			1	34				6
4		10	2		229	246	2			7
		8	50	1	2	61				8
96,909	9,285	28,269	17,699	2,412	4,082	162,305	4,422	3,925	91,441	

16.—STATIONS AND EMPLOYEES.

No. of road.	Railroads.	Stations.		Employees.	
		Total.	In Michigan.	Total.	In Michigan.
1	Ann Arbor.....	52	49	1,111	861
2	Arcadia & Betsey River.....	13	13	20	20
3	Au Sable & Northwestern.....	14	14	49	49
5	Boyne City & Southeastern.....	11	11	35	35
7	Chicago, Detroit & C. G. T. Junction.....	12	12	692	692
8	Chicago & Grand Trunk.....	76	44	2,817	2,135
9	Chicago, Kalamazoo & Saginaw.....	12	12	57	57
10	Chicago, Milwaukee & St. Paul.....	900	15		
12	Chicago & Northwestern.....	751	46	23,992	1,390
13	Chicago & West Michigan.....	111	104	1,617	1,586
17	Cincinnati Northern.....	61	9	517	39
18	Cincinnati, Saginaw & Mackinaw.....	21	21	489	489
19	Cleveland, Cincinnati, Chicago & St. Louis.....	519	8	10,021	134
20	Detroit, Grand Haven & Milwaukee.....	44	44	1,424	1,424
21	Detroit, Grand Rapids & Western.....	84	84	1,255	1,250
22	Detroit, Toledo & Milwaukee.....	33	32	307	276
23	Detroit & Lima Northern.....	44	18	596	373
24	Detroit & Mackinac.....	60	60	399	397
27	Duluth, South Shore & Atlantic.....	53	43		
28	Flint & Pere Marquette.....	146	144	2,088	2,072
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....			31	31
31	Grand Rapids & Indiana System.....	160	124	2,174	1,696
36	Terre Haute & Indianapolis.....	10	6		58
37	Lake Shore & Michigan Southern System.....	332	118	13,602	1,375
47	Lowell & Hastings.....	3	3	19	19
48	Manistee & Grand Rapids.....	3	3	81	81
49	Manistee & Northeastern.....	16	16	168	168
51	Manistique.....	4	4	78	78
52	Manistique & Northwestern.....	13	13	103	103
53	Mason & Oceana.....	6	6	36	36
54	Michigan Air Line Railway.....	20	20	493	493
55	Michigan Central System.....	506	325	9,467	5,981
71	Milwaukee, Benton Harbor & Columbus.....	11	11	32	32
72	Mineral Range.....	4	4		
73	Minneapolis, St. Paul & Sault Ste. Marie.....	126	20		
74	Munising.....	5	5	55	55
75	Pontiac, Oxford & Northern.....	22	22	104	104
76	Saginaw, Tuscola & Huron.....	17	17	127	127
78	South Haven & Eastern.....	9	9	45	45
79	St. Clair Tunnel.....			65	36
81	Toledo, Saginaw & Muskegon.....	26	26	498	498
82	Wisconsin & Michigan.....	33	16	60	
83	Wabash.....	622	25	8,255	414
ORE AND FOREST ROADS.					
1	Bear Lake & Eastern.....	5	5	13	13
2	Crawford & Manistee River.....	2	2	18	18
4	Hecla & Torch Lake.....			96	96
5	Lake Superior & Ishpeming.....	4	4	120	120
6	Lewiston & Southeastern.....	2	2	11	11
7	Manistee & Luther.....			57	57
8	Quincy & Torch Lake.....			35	35
Total.....		4,178	1,589	83,359	25,079

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16.—STATIONS AND EMPLOYEES—CONCLUDED.

Baggage-men.	Brake-men.	Conductors.	Engineers.	Firemen.	Laborers.	Shopmen.	Yardmen.	Others.	No. of road.
5	63	38	48	48	149	156	62	542	1
1	5	1	1	1	5	1	10	10	2
1	2	3	5	5	10	17	3	7	3
4	14	10	3	3	10	6	1	539	5
19	235	101	21	25	54	5	20	539	7
1	1	2	103	104	472	559	66	1,158	8
422	1,609	708	2	2	18	3	6	22	9
14	75	886	858	859	6,612	4,397	895	6,257	10
6	37	45	1,386	1,528	590	219	91	487	12
1	3	16	73	73	176	101	5	120	13
121	580	2	21	20	33	4	4	430	17
9	61	279	6	6	2,664	1,671	750	3,120	18
12	67	33	443	443	197	33	43	971	19
3	20	36	37	40	465	94	30	452	20
4	49	10	51	48	98	52	4	61	21
2	26	20	17	16	200	101	8	67	22
19	137	15	21	26	154	81	79	79	23
		31	50	50					24
		87	104	107	796	274	79	466	25
25	139				14		10	7	26
2	2	78	94	105	437	317	137	842	27
159	697	2	3	3	12	7	3	24	28
	1	318	630	637	2,311	2,473	1,470	4,907	29
		1	1	1	6			9	30
2	6	2	3	2	29	5	1	33	31
1	10	8	8	8	53	24	4	51	32
	8	4	4	4	30	11	8	2	33
	3	3	4	3	66	6	2	16	34
	6	1	4	4	12	4		5	35
	5	3	4	4	38	1		438	36
74	649	327	522	520	2,262	946	603	3,490	37
1	2	2	2	2	9	2		12	38
		3	5	4					39
		15	27	27					40
	5	2	3	3	20	6		16	41
2	4	3	3	3	32	16		41	42
2	11	4	5	7	47	18		33	43
1	1	2	3	3	12			23	44
	10	6	8	8	5			28	45
1	4	3	4	5	38	5		438	46
1	4	3	3	3	16	10	1		47
		14	22	22					48
									49
	1		2	2	5	1		2	50
	18	6	1	1	15				51
	6	3	6	6	36	4	8	12	52
			6	6	37	27	7	28	53
	2	1	1	1	5	1			54
	5	2	2	2	18	7	2	16	55
	4	2	3	3	11	3	3	6	56
914	4,538	3,145	4,654	4,823	18,264	11,667	4,326	25,236	57

17.—PERMANENT WAY.—ENTIRE SYSTEMS.

Number of road.	Railroads.	Bridge Structures.			
		Wooden.		Stone and iron.	
		No.	Length, feet.	No.	Length, feet.
1	Ann Arbor.....	1	46	47	2,459
2	Arcadia & Betsey River.....	4	80	—	—
3	Au Sable & Northwestern.....	2	800	—	—
5	Boyne City & Southeastern.....	2	98	—	—
7	Chicago, Detroit & C. G. T. Junction.....	—	—	6	799
8	Chicago & Grand Trunk.....	—	—	24	2,417
9	Chicago, Kalamazoo & Saginaw.....	38	1,430	—	—
10	Chicago, Milwaukee & St. Paul.....	5	440	2	190
12	Chicago & Northwestern.....	37	2,650	13	1,896
13	Chicago & West Michigan.....	7	686.5	23	2,847
17	Cincinnati Northern.....	—	—	1	60
18	Cincinnati, Saginaw & Mackinaw.....	—	—	4	1,218
19	Cleveland, Cincinnati, Chicago & St. Louis.....	—	—	—	—
20	Detroit, Grand Haven & Milwaukee.....	—	—	31	4,935
21	Detroit, Grand Rapids & Western.....	5	198	29	2,761 6"
22	Detroit, Toledo & Milwaukee.....	1	144	—	—
23	Detroit & Lima Northern.....	1	158	2	366
24	Detroit & Mackinac.....	4	764	8	1,553
27	Duluth, South Shore & Atlantic.....	17	1,385	18	1,089
28	Flint & Pere Marquette.....	8	513 6"	31	3,898 9"
29	Gogebic & Montreal River (Op'd by Wis. Cent.).....	6	1,501	2	227
31	Grand Rapids & Indiana System.....	—	—	26	2,325.3
34	Hancock & Calumet.....	—	—	3	561
36	Terre Haute & Indianapolis.....	—	—	—	—
38	Lake Shore & Michigan Southern System.....	10	1,152 9"	74	4,307 9"
47	Lowell & Hastings.....	10	670	—	—
48	Manistee & Grand Rapids.....	1	106	—	—
49	Manistee & Northeastern.....	17	898	—	—
51	Manistique.....	2	225	—	—
52	Manistique & Northwestern.....	7	346	—	—
53	Mason & Oceana.....	3	450	—	—
54	Michigan Air Line Railway.....	—	—	3	534
55	Michigan Central System.....	—	182 6"	—	10,358 10"
71	Milwaukee, Benton Harbor & Columbus.....	—	—	2	278
72	Mineral Range.....	—	—	—	—
73	Minneapolis, St. Paul & Sault Ste. Marie.....	102	9,455	—	—
74	Munising.....	8	456	—	—
76	Pontiac, Oxford & Northern.....	27	1,239	—	—
78	Saginaw, Tuscola & Huron.....	12	576	1	77
78	South Haven & Eastern.....	5	945	—	—
81	Toledo, Saginaw & Muskegon.....	4	1,697	—	—
82	Wisconsin & Michigan.....	—	—	1	385
83	Wabash.....	16	204	1	184
ORE AND FOREST ROADS.					
1	Bear Lake & Eastern.....	3	96	—	—
2	Crawford & Manistee River.....	—	—	—	—
5	Lake Superior & Ishpeming.....	9	1,913	—	—
6	Lewiston & Southeastern.....	—	—	—	—
7	Manistee & Luther.....	10	2,168	—	—
8	Quincy & Torch Lake.....	—	—	—	—
Total.....		384	33,672.2	352	45,607

17.—PERMANENT WAY.—ENTIRE SYSTEMS.—CONCLUDED.

Bridge Structures.								Railway crossing.			Number of road.
Combination.		Trestles.		Draw bridges.		Total.		At grade.	Under or over.	Total.	
No.	Length, feet.	No.	Length, feet.	No.	Length, feet.	No.	Length, feet.	No.	No.	No.	
3	340	90	3,070			141	5,915	398	11	409	1
						4	80	23		23	2
		8	3,800			10	4,600	24		24	3
						2	98	17		17	5
		8	123			14	922	90		90	7
		62	2,237			86	4,654	263	4	267	8
						38	1,430	66		66	9
1	88	103	8,650			111	9,368	51		51	10
4	701	624	29,947			678	35,134	207	9	216	12
4	688	152	18,788.5			186	23,010	663	25	718	13
		48	3,136			49	3,196	39	6	45	17
2	796	25	2,485			31	4,499	96		96	18
		30	1,864			30	1,864	56	3	59	19
		34	2,530			65	7,465	254	20	274	20
		74	5,523			108	8,472 6"	508	20	528	21
		123	12,441			124	12,585	206	2	208	22
			3,949				4,473	83		83	23
1	477	31	2,817	1	220	44	5,611	197		197	24
		225	36,814		32	229	39,238	194	11	205	27
8	809		10,837	4	669 6"	51	15,727 9"	867	12	879	28
2	150.5					10	1,878.5	5	1	6	29
11	2,664.6	142	8,843.8			179	13,323.7	563	9	572	31
		18	1,738			21	2,299	18	1	14	34
		26	1,950			26	1,950	24	4	28	36
		58	7,820' 9"	2	307' 8"	144	13,588' 11"	868	11	879	38
						10	670	17		17	47
2	56	1	75			4	236	35		35	48
						17	893	72		72	49
1	300					3	525	4		4	51
		1	700			8	1,046	6		6	52
						3	450	11		11	53
		64	4,315			67	4,849	130	2	132	54
	918' 8"	18	18,539' 1"	7	1,063' 6"		31,063' 7"	1,348	53	1,401	55
		17	3,296			19	3,574	28	3	31	71
1	1,657 6"	10	867	1	180	12	2,704 6"	27	1	28	72
						102	9,455	5	2	7	73
		7	3,253			15	3,709	8		8	74
						27	1,239	108		108	75
				1	35	13	653	84		84	76
						5	945	55		55	78
		54	3,840			58	5,537	127	2	129	81
		6	803			7	688	3		3	82
1	194	79	4,624	1	184	97	5,206	160		160	83
		3	766			6	862	13	13	26	1
7	3,304	2	2,412			18	7,629	9	6	15	2
								3		3	5
						10	2,168				6
		9	1,517			9	1,517				7
											8
48	13,134 5"	2,134	213,361 11	18	2,691 8"	2,891	306,996 3"	8,059	231	8,290	

18.—PERMANENT WAY.—ENTIRE SYSTEMS.

Number of road.	Railroads.	Renewal of	
		With stone or iron pipe.	With sewer pipe.
1	Ann Arbor.....	.....	.....
8	Chicago & Grand Trunk.....	2	.....
9	Chicago, Kalamazoo & Saginaw.....	.....	.....
10	Chicago, Milwaukee & St. Paul.....	3	.....
12	Chicago & Northwestern.....	4	1
13	Chicago & West Michigan.....	9	26
18	Cincinnati, Saginaw & Mackinaw.....	.....	.....
20	Detroit, Grand Haven & Milwaukee.....	1	.....
21	Detroit, Grand Rapids & Western.....	18	2
22	Detroit, Toledo & Milwaukee.....	1	9
23	Detroit & Lima Northern.....	.....	.....
24	Detroit & Mackinac.....	4	3
27	Duluth, South Shore & Atlantic.....	.....	.....
28	Flint & Pere Marquette.....	2	28
31	Grand Rapids & Indiana System.....	13	1
34	Hancock & Calumet.....	.....	.....
36	Terre Haute & Indianapolis.....	.....	4
37	Iron Range & Huron Bay.....	.....	.....
38	Lake Shore & Michigan Southern System.....	26	.....
47	Lowell & Hastings.....	.....	.....
49	Manistee & Northeastern.....	3	.....
53	Mason & Oceana.....	.....	.....
54	Michigan Air Line Railway.....	.....	.....
55	Michigan Central System.....	196	27
72	Mineral Range.....	.....	.....
73	Minneapolis, St. Paul & Sault Ste. Marie.....	.....	.....
75	Pontiac, Oxford & Northern.....	4	.....
76	Saginaw, Tuscola & Huron.....	9	.....
78	South Haven & Eastern.....	3
81	Toledo, Saginaw & Muskegon.....
83	Wabash.....	11	1
	Total.....	306	106

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18—PERMANENT WAY.—ENTIRE SYSTEMS.—CONCLUDED.

timber culverts.		New Bridges.						Number of rods.
With timber	Total number renewed.	Wooden.		Iron or stone.		Total number.	Total length linear feet.	
		Number.	Length linear feet.	Number.	Length linear feet.			
				11	223	11	223	1
6	2							8
1	6							9
35	4					18	1,020	10
	40	62	2,694	1	20	63	2,714	12
								13
	35							18
1	1			1	154'2"	1	154'2"	20
	1			2	400	2	400	21
16	36							22
	10							23
								24
9	16	2	120			2	120	27
5	5							28
	30	3	1,742	2	170	5	1,912	31
	14			1	300	1	300	34
								36
1	5	2	112			2	112	37
								38
19	45			3	106'8"	3	106'8"	47
2	2							49
								53
1	4	6	416			6	416	54
		2	60			2	60	55
7	7							72
7	230					7	282'4"	73
		2	301			2	301	75
								76
25	25							78
3	7							81
	9							83
	3	2	152			2	152	
14	14							
1	13	9	1,091.7			9	1,091.7	
153	564	90	6,688.7	21	1,373'10"	136	9,364.9	

19.—TAXES PAYABLE JUNE 1, 1899.

No. of road.	Railroads.	Miles of road in Michigan upon which taxes are based.	Gross income as reported in Michigan.	Gross taxable earnings per mile of road operated in Michigan.	Per cent of taxation on taxable income.	Total taxes assessed in Michigan.	Taxes per mile of road operated in Michigan.	No. of road.
1	Ann Arbor.....	286.19	\$1,378,951.44	\$4,076.92	8.06	\$42,275.50	\$147.71	1
2	Arcadia & Hetsay River.....	23.01	8,645.92	421.75	2.50	215.14	9.30	2
3	Au Sable & Northwestern.....	70.00	22,270.49	318.75	2.50	554.78	7.96	3
4	Bozette & Northwestern.....	25.01	43,769.45	1,760.78	2.50	1,091.23	43.77	4
5	Bozette & Northwestern.....	59.37	248,830.65	4,187.58	2.50	7,981.17	197.97	5
6	Chicago, Detroit & C. G. T. Junction.....	224.00	2,373,213.67	10,736.38	8.91	92,500.68	439.87	6
7	Chicago & Grand Trunk.....	44.43	61,731.53	1,379.00	2.50	7,544.53	34.73	7
8	Chicago, Kalamazoo & Saginaw.....	152.08	286,695.65	1,885.16	2.50	7,167.38	47.13	8
9	Chicago, Milwaukee & St. Paul.....	521.19	2,006,579.05	3,847.25	2.50	57,393.46	110.06	9
10	Chicago & Northwestern.....	579.54	1,877,611.52	3,239.53	2.75	59,829.27	100.90	10
11	Chicago & West Michigan.....	39.88	84,355.56	1,968.71	2.75	2,143.32	53.75	11
12	Cincinnati Northern.....	53.00	187,675.98	2,597.66	2.94	2,679.46	92.31	12
13	Cincinnati, Saginaw & Mackinaw.....	35.14	149,998.78	4,268.60	2.94	4,418.66	125.74	13
14	Cleveland, Cincinnati, Chicago & St. Louis.....	189.00	938,529.30	4,960.97	3.08	29,098.17	180.57	14
15	Detroit, Grand Haven & Milwaukee.....	382.30	1,490,222.17	3,804.25	2.86	49,697.72	111.63	15
16	Detroit, Grand Rapids & Western.....	150.82	276,402.47	1,662.13	2.86	4,910.06	48.32	16
17	Detroit, Toledo & Milwaukee.....	56.80	138,636.96	1,634.75	2.86	3,653.37	64.32	17
18	Detroit & Lima Northern.....	311.73	524,373.95	3,443.15	2.86	18,109.34	106.35	18
19	Detroit & Mackinac.....	471.29	1,634,086.06	3,704.84	2.86	76,947.04	111.90	19
20	Duluth, South Shore & Atlantic.....	708.12	54,165.76	3,286.76	2.75	57,170.66	150.39	20
21	Flint & Pere Marquette.....	16.48	1,857,696.41	4,560.91	3.07	1,480.48	91.73	21
22	Gorrie & Montreal Riv. (Op'd by Wis. Cent.).....	380.80	124,098.64	1,663.33	2.80	1,042.16	40.04	22
23	Grand Rapids & Indiana System.....	36.85	41,686.78	3,387.67	2.80	5,107.39	103.13	23
24	Grand Rapids & Indiana.....	26.00	201,822.41	5,791.17	3.24	1,107.64	40.22	24
25	Hancock & Calumet.....	33.90	44,306.67	1,768.69	3.21	3,633.41	184.53	25
26	Terre Haute & Indianapolis.....	187.68	1,076,975.34	14,670.00	3.21	34,382.40	17.34	26
27	Lake Shore & Michigan Southern System.....	20.90	14,499.66	663.76	2.50	1,083.94	16.73	27
28	Detroit, Chicago.....	64.76	43,357.68	639.51	2.50	1,083.94	16.73	28
29	Detroit, Hillsdale & Southwestern.....	64.76	454,013.04	8,327.48	3.01	16,403.26	299.54	29
30	Monroe & Jackson.....	44.82	65,206.69	1,464.66	2.80	1,480.16	38.61	30
31	Kalamazoo, Allegan & Grand Rapids.....	52.45	155,883.91	2,666.79	3.02	1,189.47	71.65	31
32	Kalamazoo & White Pigeon.....	36.54	107,292.96	2,936.34	2.92	2,538.93	80.43	32
33	Northern Central Michigan.....	61.38	98,276.37	1,601.56	2.74	2,454.86	40.04	33
34	Sturgis, Goshen & St. Louis.....	3.35	4,168.44	1,241.32	2.80	2,108.98	327.92	34
35	Lowell & Hastings.....	12.50	13,517.12	1,081.37	2.80	337.92	27.07	35
36	Manistee & Grand Rapids.....	41.71	76,864.25	1,148.21	2.80	1,991.66	42.97	36
37	Manistee & Northeastern.....	100.10	267,167.85	2,475.14	2.86	7,161.43	71.74	37
38	Manistee.....	55.50	96,667.57	1,741.76	2.86	2,480.47	43.66	38
39	Manistique & Northwestern.....	53.00	96,818.92	1,893.12	2.80	2,419.91	46.40	39
40	Manistique & Oceana.....	37.00	16,595.41	1,614.68	2.50	2,771.82	34.05	40
41	Mason & Oceana.....	105.60	108,873.06	1,030.81	2.50	2,771.82	34.05	41
42	Michigan Air Line Railway.....	221.00	4,645,635.61	21,020.96	4.45	206,561.78	938.04	42
43	Battle Creek & Sturgis.....	38.80	20,501.56	606.56	2.40	512.53	18.16	43
44	Bay City & Battle Creek.....	18.00	13,281.43	737.85	2.50	332.03	18.33	44

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59	Canada Southern Bridge	8 66	1,558 13	507 41	2 50	46 45	12 60	59
60	Detroit & Bay City	155 00	684, 164 45	4,478 48	2 50	20,791 57	184 13	60
61	Detroit, Delray & Dearborn	4 84	313, 27 44	5 67	2 50	8,939 69	14 14	61
62	Grand River Valley	83 70	313, 432 19	3,740 68	2 54	34,932 13	105 57	62
63	Jackson, Lansing & Saginaw	322 90	1,223, 895 60	3,790 23	2 55	1,568 04	107 87	63
64	Kalamazoo & South Haven	39 50	62, 721 94	1,587 89	2 50	7,879 90	39 69	64
65	Michigan Air Line R. R.	109 10	292, 812 43	2,683 88	2 50	7,175 51	72 22	65
66	Michigan, Midland & Canada	14 08	7, 020 43	478 23	2 50	620 48	11 96	66
67	Saginaw Bay & Northwestern	82 57	24, 819 43	300 58	2 50	37,833 02	7 51	67
68	Toledo, Canada Southern & Detroit	47 27	865, 381 51	18, 397 01	4 37	800 36	800 36	68
69	Midland & Northern	10 00	2, 142 00	214 20	2 50	53 55	5 35	69
70	Milwaukee, Benton Harbor & Columbus	26 86	23, 510 63	870 74	2 50	587 76	21 84	70
71	Mineral Range	24 68	175, 314 27	7, 103 50	3 44	6,038 14	244 65	71
72	Minneapolis, St. Paul & Sault Ste. Marie	208 48	610, 707 27	2,911 73	2 73	16,720 78	80 21	72
73	Minneapolis, St. Paul & Sault Ste. Marie	45 00	55, 618 63	1,502 31	2 50	1,390 46	30 90	73
74	Pontiac, Oxford & Northern	100 59	150, 231 50	1,502 31	2 50	3,755 78	37 33	74
75	Saginaw, Tuscola & Huron	66 57	144, 625 60	2,091 47	2 55	8,701 78	55 61	75
76	Sault Ste. Marie Bridge Co.	35 35	19, 058 17	966 21	4 78	911 50	2, 531 94	76
77	South Haven & Eastern	36 60	35, 393 35	113, 698 66	2 50	884 08	24 16	77
78	St. Clair Tunnel	1 125	127, 809 75	1,376 29	4 89	6,261 10	34 40	78
79	Toledo, Saginaw & Muskegon	96 00	132, 124 12	1,714 43	2 50	3,393 10	81	79
80	Wisconsin & Michigan	30 73	27, 720 45	8,073 24	2 50	693 01	22 55	80
81	Wabash	78 20	650, 440 88	5,191 63	3 61	23,264 54	300 88	81
82	Detroit Union R. R. Depot & Station Co.	2 98	112, 890 46	84,115 91	9 08	10,255 43	84	82
83	The Fort St. Union Depot Co.	2 98	118, 011 87	84,115 91	7 18	8,481 48	162 66	83
84								84
85								85
1	Bear Lake & Eastern	18 00	10, 117 26	561 78	2 50	252 93	14 05	1
2	Crawford & Manistee River	10 00	9, 620 73	963 07	2 62	240 51	24 05	2
3	Hecla & Torch Lake	7 50	84, 872 07	11,316 27	3 98	3,381 10	450 81	3
4	Lake Superior & Ishpeming	21 01	128, 136 50	5,842 98	3 27	4,190 39	199 44	4
5	Lewis & Southeastern	14 00	7, 669 69	766 96	2 50	191 74	13 69	5
6	Manistee & Luthier	67 00	29, 324 43	437 83	2 50	733 36	10 94	6
7	Quincy & Torch Lake	6 00	31, 149 80	5,191 63	3 13	975 99	162 66	7
8								8
Total		7,849 412	\$32,308,515 29	\$4,115 91	3 29	\$1,063,199 76	135 45	

ORE AND FOREST ROADS.

		834 73	756 75	700 99	1,533 38	1,921 40	45
Manistee & Grand Rapids.....	835 90	834 73	756 75	700 99	1,533 38	1,921 40	45
Manistee & Northeastern.....	3,751 62	2,999 05	3,442 34	3,992 24	6,110 53	7,181 43	49
Manistee & Northeastern (Supplementary).....	1,488 38	1,280 04	2,844 56	2,384 26	2,189 50	2,416 58	50
Manistique & North Western.....	398 38	492 99	373 92	286 98	736 32	2,499 47	51
Mason & Oceana.....					320 30	414 91	53
Michigan Air Line Railway.....	3,531 45	3,915 83	8,509 67	2,970 70	2,827 34	2,721 92	54
Michigan Central System.....	134,083 20	130,152 92	145,515 01	148,070 68	187,386 74	205,566 78	55
Battle Creek & Sault Ste. Marie.....	400 25	374 30	387 35	354 48	483 32	512 53	56
Bay City & Battle Creek.....	231 71	154 44	157 41	143 96	190 10	332 03	57
Canada Southern Bridge.....	31 87	39 37	41 53	530 56	47 20	46 45	59
Canada Southern Bridge.....	20,006 83	14,079 49	14,931 64	15,037 19	19,747 68	20,791 57	60
Detroit & Bay City.....							
Detroit, Delray & Dearborn.....	14,934 00	6,166 47	1 53	3 60	3 65	68	61
Grand River Valley.....	36,590 73	28,717 08	6,075 32	6,110 20	8,050 21	8,999 69	62
Jackson, Lansing & Saginaw.....	1,166 03	1,036 68	25,075 65	25,085 30	31,701 54	34,032 13	63
Lebanon & Southern.....	5,369 87	4,496 75	6,292 41	6,207 71	8,253 73	7,568 01	64
Michigan Air Line R. R.....	175 35	157 91	161 50	149 39	169 70	7,879 90	65
Michigan, Midland & Canada.....						175 51	66
Saginaw Bay & Northwestern.....	1,566 05	1,057 48	775 40	485 01	630 59	630 48	67
Toronto, Canada Southern & Detroit.....	23,064 42	19,867 96	24,150 53	24,653 31	31,364 74	37,833 02	68
Midland & Northern.....		63 57	29 37	17 73	53 55	53 55	70
Mineral Range, Benton Harbor & Columbus.....					98 00	597 76	71
Minneapolis, St. Paul & Sault Ste. Marie.....	3,407 34	2,812 59	2,911 58	3,181 74	5,040 99	6,038 14	72
	13,364 19	10,446 87	13,165 83	17,529 44	22,293 62	16,720 73	73
Munising.....							
Pontiac, Oxford & Northern.....	2,563 52	2,335 18	2,304 32	2,303 55	1,542 14	1,390 46	74
Saginaw, Tuscola & Huron.....	2,475 49	2,371 08	2,243 42	2,220 92	3,103 80	3,755 78	75
Sault Ste. Marie Bridge Co.....	518 58	494 86	637 32	710 68	2,840 23	3,701 73	76
South Haven & Eastern.....	3,479 77	4,225 66	392 85	555 72	891 37	911 50	77
St. Clair Tunnel.....			4,033 87	4,560 57	742 52	884 06	78
Superior Terminal.....	31 89	38 16			5,575 65	6,261 10	79
Toronto, Saginaw & Muskegon.....	2,521 30	2,160 57	1,920 27	1,894 93	3,051 87	3,303 10	80
Wisconsin & Michigan.....					498 07	498 07	81
Wabash.....	11,638 88	9,290 77	11,100 72	9,214 43	11,656 49	23,264 51	82
Detroit Union R. R. Depot & Station Co.....	4,068 90	3,133 29	3,739 61	2,802 47	10,075 95	10,255 43	83
The Fort St. Union Depot Co.....	2,563 80	3,174 65	3,086 86	3,163 73	8,559 28	8,481 48	84
ORE AND FOREST ROADS.							
Bear Lake & Eastern.....	294 76	196 25	146 10	147 90	219 18	252 98	1
Crawford & Manistee River.....	148 29	155 77	117 53	153 75	181 34	240 51	2
Fitch & Torch Lake.....	3,062 47	2,666 47	2,639 77	8,442 10	3,716 19	3,381 10	4
Lake Superior & Ishpeming.....					3,082 47	4,190 39	5
Lewiston & Southeastern.....					183 43	191 74	6
Manistee & Luther.....	2,280 40	2,082 27	1,496 12	1,027 84	830 87	733 36	7
Quincy & Torch Lake.....	424 57	543 84	611 45	673 40	923 87	975 99	8
Total.....	8393,762 01	8676,136 18	8741,408 77	8742,074 63	8941,814 54	81,063,199 76	

20.—TOTAL INCOME AND EXPENSES—MICHIGAN.

No. of road.	Railroads.	Proportion of income for Michigan.	Proportion of expenses for Michigan.	Percentage of expenses to earnings.	Net earnings per mile of road.	No. of road.
1	Ann Arbor.....	\$1,167,145 30	.....	82.22	\$889 94	1
2	Arcadia & Betsey River.....	8,645 92	87,997 76	32.	.....	2
3	Au Sable & Northwestern.....	22,270 49	44,559 60	.....	.....	3
4	Boyer City & Southeastern.....	43,769 45	18,673 39	42.50	1,003 84	4
5	Chicago, Detroit & C. G. T. Junction.....	248,820 66	250,644 28	100.73	*30 72	5
6	Chicago & Grand Trunk.....	2,373,213 67	1,880,871 50	78.22	2,338 63	6
7	Chicago, Kalamazoo & Saginaw.....	61,781 53	43,166 09	69.8	418 98	7
8	Chicago, Milwaukee & St. Paul.....	286,695 66	252,758 70	61.83	2,268 88	8
9	Chicago & Northwestern.....	2,005,149 55	2,510,897 47	65.23	2,568 19	9
10	Chicago & West Michigan.....	1,877,611 52	1,461,424 38	77.83	718 13	10
11	Cincinnati Northern.....	84,355 56	72,827 77	89.04	218 57	11
12	Cincinnati, Saginaw & Mackinaw.....	137,675 98	111,166 21	80.74	500 18	12
13	Cleveland, Cincinnati, Chicago & St. Louis.....	149,998 75	136,515 74	91.01	383 69	13
14	Detroit, Grand Haven & Milwaukee.....	938,529 30	700,169 93	74.60	1,261 16	14
15	Detroit, Grand Rapids & Western.....	1,490,222 17	1,170,584 87	76.08	708 73	15
16	Detroit, Toledo & Milwaukee.....	276,402 47	333,176 77	123.75	.....	16
17	Detroit & Lima Northern.....	138,626 96	173,986 70	96.31	78 56	17
18	Detroit & Mackinac.....	522,192 01	348,653 08	66.76	556 71	18
19	Duluth, South Shore & Atlantic.....	1,634,086 06	1,115,122 67	69.19	952 80	19
20	Flint & Pere Marquette.....	2,764,967 56	1,964,766 71	74.	950 81	20
21	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....	54,165 76	92,238 92	170.29	5,597 03	21
22	Grand Rapids & Indiana System.....	2,023,451 83	1,499,640 74	74.11	1,180 69	22
23	Hancock & Calumet.....	201,822 41	170,644 72	84.55	894 62	23
24	Terre Haute & Indianapolis.....	44,305 67	46,140 39	101.	.....	24
25	Lake Shore & Mich. Southern System.....	2,019,663 09	1,750,046 31	67.11	1,410 26	25
26	Lowell & Hastings.....	13,517 12	10,697 29	79.	225 49	26
27	Manistee & Grand Rapids.....	76,864 25	57,984 34	75.44	282 59	27
28	Manistee & Northeastern.....	267,167 36	161,808 40	60.50	976 08	28
29	Manistique.....	96,667 57	77,619 31	80.	343 21	29
30	Manistique & Northwestern.....	96,818 92	45,178 08	47.7	1,291 02	30
31	Mason & Oceana.....	16,596 41	16,596 41	100.	.....	31
32	Michigan Air Line Railway.....	108,873 06	100,847 22	92.61	76 00	32
33	Michigan Central System.....	8,165,522 15	6,292,205 70	75.08	2,111 68	33
34	Midland & Northern.....	2,142 00	3,318 69	.....	.....	34
35	Milwaukee, Benton Harbor & Columbus.....	23,510 63	25,072 35	.....	928 60	35
36	Mineral Range.....	175,314 27	139,998 70	79.86	1,430 49	36
37	Minneapolis, St. Paul & Salt Ste. Marie.....	610,707 27	533,600 29	87.37	376 63	37
38	Munising.....	55,618 53	43,564 48	78.	267 87	38
39	Pontiac, Oxford & Northern.....	150,231 50	92,046 34	61.27	581 85	39
40	Saginaw, Tuscola & Huron.....	139,229 07	105,804 56	75.99	502 10	40
41	Sault Ste. Marie Bridge Co.....	19,058 17	13,906 58	.....	.....	41
42	South Haven & Eastern.....	35,363 85	26,718 56	75.	730 02	42
43	St. Clair Tunnel.....	127,809 75	53,735 26	42.06	65,843 99	43
44	Toledo, Saginaw & Muskegon.....	132,124 12	108,286 55	81.96	248 31	44
45	Wisconsin & Michigan.....	27,720 45	41,531 40	76.	413 44	45
46	Wabash.....	649,896 47	562,526 97	82.48	1,062 84	46
47	Detroit Union R. R. Depot & Station Co.....	112,890 46	1,200 00	.....	.....	47
48	The Fort St. Union Depot Co.....	118,041 81	.....	.....	.....	48

* Loss.

20.—TOTAL INCOME AND EXPENSES—MICHIGAN.—CONCLUDED.

No. of road.	Railroads.	Proportion of income for Michigan.	Proportion of expenses for Michigan.	Percentage of expenses to earnings.	Net earnings per mile of road.	No. of road.
	ORE AND FOREST ROADS.					
1	Bear Lake & Eastern.....	\$10,117 26	\$7,359 88	72.75	\$408 83	1
2	Crawford & Manistee River.....	9,620 73	9,613 44	99.92	962 07	2
4	Hecla & Torch Lake.....	84,872 07	88,588 26	-----	-----	4
5	Lake Superior & Ishpeming.....	128,136 50	112,562 92	87 85	710 15	5
6	Lewiston & Southeastern.....	7,669 69	7,221 43	94.15	722 14	6
7	Manistee & Luther.....	29,334 43	34,056 26	116.10	-----	7
8	Quincy & Torch Lake.....	31,149 80	31,149 80	100.	-----	8
	Total.....	\$32,098,152 49	\$24,961,474 17	74.65	\$920 54	

21.—TRAFFIC EARNINGS—MICHIGAN.

No. of road.	Railroads.	Passenger			
		Passenger fares.	Express and baggage.	Mail.	Other sources.
1	Ann Arbor.....	\$249,764 65	\$5,628 56	\$37,647 36	-----
2	Arcadia & Betsey River.....	1,188 68	3 50	654 81	-----
3	Au Sable & Northwestern.....	2,450 95	-----	1,710 00	-----
5	Boyer City and Southeastern.....	1,125 22	65 75	312 50	-----
7	Chicago, Detroit & C. G. T. Junction.....	117,182 18	10,344 02	11,085 14	-----
8	Chicago & Grand Trunk.....	550,664 24	33,748 65	59,406 41	-----
9	Chicago, Kalamazoo & Saginaw.....	21,917 74	956 18	2,000 40	\$449 96
10	Chicago, Milwaukee & St. Paul.....	41,141 59	13,390 32	11,940 18	467 86
12	Chicago & Northwestern.....	217,269 52	46,138 68	48,316 30	-----
13	Chicago & West Michigan.....	568,393 43	36,025 39	67,019 75	-----
17	Cincinnati Northern.....	21,320 18	2,564 92	2,765 09	-----
18	Cincinnati, Saginaw & Mackinaw.....	34,573 46	1,594 65	4,563 84	-----
19	Cleveland, Cincinnati, Chicago & St. Louis.....	32,682 30	1,876 65	2,929 42	-----
20	Detroit, Grand Haven & Milwaukee.....	357,496 04	27,100 44	31,359 16	-----
21	Detroit, Grand Rapids & Western.....	558,070 13	24,000 00	53,808 90	7,091 08
22	Detroit, Toledo & Milwaukee.....	42,539 37	9,507 42	10,554 20	-----
23	Detroit & Lima Northern.....	31,367 02	2,116 15	3,164 30	220 24
24	Detroit & Mackinac.....	116,491 32	4,175 93	19,696 59	627 73
27	Duluth, South Shore & Atlantic.....	435,191 08	43,981 17	44,452 46	-----
28	Flint & Pere Marquette.....	691,008 83	51,364 27	71,675 10	4,216 36
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....	4,984 31	500 92	327 37	-----
31	Grand Rapids & Indiana System.....	661,694 65	44,639 86	46,045 22	9,907 52
34	Hancock & Calumet.....	12,816 25	415 57	694 08	9 75
36	Terre Haute & Indianapolis.....	10,797 47	952 94	1,685 36	59 45
38	Lake Shore & Michigan Southern System.....	606,486 42	71,786 62	222,520 67	-----
47	Lowell & Hastings.....	2,700 00	108 76	553 44	65 55
48	Manistee & Grand Rapids.....	1,684 17	155 25	-----	74 00
49	Manistee & Northeastern.....	45,712 08	1,078 07	4,891 16	181 05
51	Manistique.....	10,124 20	-----	1,750 36	-----
52	Manistique & Northwestern.....	3,863 87	-----	-----	-----
53	Mason & Oceana.....	1,690 55	-----	1,247 44	-----
54	Michigan Air Line Railway.....	33,264 63	2,499 96	7,704 76	-----
55	Michigan Central System.....	2,065,550 49	238,424 80	270,795 82	-----
71	Milwaukee, Benton Harbor & Columbus.....	11,701 92	433 64	377 96	-----
72	Mineral Range.....	43,559 32	1,778 10	1,282 86	146 75
73	Minneapolis, St. Paul & Sault Ste. Marie.....	105,038 95	10,928 60	25,455 90	6,597 42
74	Munising.....	8,080 28	403 41	468 00	-----
75	Pontiac, Oxford & Northern.....	45,912 64	2,571 56	7,732 90	-----
76	Saginaw, Tuscola & Huron.....	43,325 94	1,608 99	5,428 10	-----
77	Sault Ste. Marie Bridge Co.....	-----	-----	-----	-----
78	South Haven & Eastern.....	15,619 59	1,141 19	1,699 30	-----
79	St. Clair Tunnel.....	-----	-----	-----	-----
81	Toledo, Saginaw & Muskegon.....	22,261 78	750 60	6,764 54	-----
82	Wisconsin & Michigan.....	4,062 79	94 23	660 00	-----
83	Wabash.....	141,922 00	7,195 26	9,367 33	5,587 67
84	Detroit Union R. R. Depot & Station Co.....	-----	-----	-----	-----
85	The Fort St. Union Depot Co.....	-----	-----	-----	-----
ORE AND FOREST ROADS.					
1	Bear Lake & Eastern.....	17 35	-----	-----	-----
2	Crawford & Manistee River.....	-----	-----	-----	-----
4	Hecla & Torch Lake.....	-----	-----	-----	-----
5	Lake Superior & Ishpeming.....	2,323 70	105 72	-----	-----
6	Lewiston & Southeastern.....	-----	-----	-----	-----
7	Manistee & Luther.....	658 72	-----	-----	-----
8	Quincy & Torch Lake.....	-----	-----	-----	-----
Total.....		\$7,997,992 30	\$702,156 70	\$1,102,714 48	\$35,702 39

COMMISSIONER OF RAILROADS.

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21.—TRAFFIC EARNINGS.—CONCLUDED.

department.	Freight department.			Total traffic earnings.	Operating receipts other than traffic earnings.	Total receipts from operation.	No. of road.
	Total.	Freight.	Other sources.				
\$298,040 57	\$822,518 56	-----	-----	\$1,115,559 13	\$51,566 17	\$1,167,145 30	1
1,847 29	6,798 63	-----	-----	8,645 92	-----	8,645 92	2
4,160 95	18,109 54	-----	-----	22,270 49	-----	22,270 49	3
1,503 47	42,076 69	-----	\$189 29	43,769 45	189 29	43,958 74	5
138,611 34	107,133 50	-----	-----	245,744 84	2,870 81	248,615 65	7
643,819 30	1,717,627 48	-----	-----	2,361,446 78	11,866 89	2,373,213 67	8
25,324 28	35,815 19	-----	-----	61,271 12	510 41	61,781 53	9
66,989 96	206,894 24	-----	131 65	273,834 19	12,861 47	286,695 66	10
311,724 50	1,669,376 09	-----	-----	1,981,100 59	24,048 96	2,005,149 55	12
671,438 57	1,198,760 95	-----	-----	1,870,199 52	7,412 00	1,877,611 52	13
26,650 19	52,338 18	-----	-----	78,988 37	5,367 19	84,355 56	17
40,731 95	96,112 80	-----	-----	136,844 75	831 23	137,675 98	18
37,488 37	100,511 64	-----	2,361 89	140,361 90	9,636 85	149,998 75	19
415,855 64	498,475 14	-----	-----	914,430 78	23,191 52	937,622 30	20
642,970 11	838,183 11	-----	-----	1,481,153 22	9,068 95	1,490,222 17	21
62,600 99	196,297 12	-----	-----	258,898 11	17,504 36	276,402 47	22
36,867 71	96,837 13	-----	2,922 12	138,626 96	-----	138,626 96	23
140,991 57	381,800 44	-----	-----	528,192 01	-----	528,192 01	24
523,624 71	1,081,007 73	-----	7,889 61	1,612,522 05	21,564 01	1,634,086 06	27
818,264 56	1,817,971 51	-----	-----	2,636,236 07	128,731 49	2,764,967 56	28
5,812 60	48,206 48	-----	79 00	54,098 08	67 68	54,165 76	29
762,287 25	1,219,171 71	-----	9,566 76	1,991,115 72	32,436 11	2,023,451 83	31
13,935 65	186,419 27	-----	-----	200,354 92	1,467 49	201,822 41	34
13,495 22	30,810 45	-----	-----	44,305 67	-----	44,305 67	36
900,793 71	1,095,028 37	-----	7,844 16	2,003,666 24	15,996 85	2,019,663 09	38
3,427 75	10,089 37	-----	-----	13,517 12	-----	13,517 12	47
1,913 42	74,121 25	-----	677 00	76,711 67	152 58	76,864 25	48
51,862 36	206,973 35	-----	-----	258,835 71	8,331 65	267,167 36	49
11,874 56	83,173 39	-----	-----	96,047 95	1,619 62	96,667 57	51
3,863 87	90,427 41	-----	-----	94,291 28	2,162 92	96,454 20	52
2,937 99	13,658 42	-----	-----	16,596 41	-----	16,596 41	53
43,469 35	65,079 21	-----	-----	108,548 56	304 50	108,853 06	54
2,574,771 11	5,414,549 53	-----	-----	7,969,320 64	176,201 51	8,165,522 15	55
12,513 52	10,863 13	-----	-----	23,376 65	133 98	23,510 63	71
46,767 03	112,695 27	-----	229 01	159,691 31	15,622 96	175,314 27	72
148,020 87	448,898 70	-----	2,149 04	598,568 61	2,138 66	600,707 27	73
8,951 69	42,189 84	-----	-----	51,141 53	4,477 00	55,618 53	74
56,217 10	98,762 65	-----	-----	149,979 75	251 75	150,231 50	75
50,363 03	88,115 76	-----	-----	138,478 79	750 28	139,229 07	76
-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	19,058 17	-----	19,058 17	-----	19,058 17	77
18,660 08	16,654 56	-----	-----	35,314 64	48 71	35,363 35	78
-----	103,321 75	-----	-----	103,321 75	16 00	103,337 75	79
29,776 92	84,207 29	-----	-----	113,984 21	18,139 91	132,124 12	81
4,817 02	22,067 81	-----	845 62	22,903 43	27,720 45	27,720 45	82
164,072 26	452,245 36	-----	33,578 85	485,824 21	649,896 47	649,896 47	83
-----	-----	-----	94,358 91	94,358 91	-----	94,358 91	84
-----	-----	-----	118,041 81	118,041 81	-----	118,041 81	85
-----	-----	-----	-----	-----	-----	-----	-----
17 35	10,094 76	-----	-----	10,112 11	5 15	10,106 96	1
-----	9,620 73	-----	-----	9,620 73	-----	9,620 73	2
-----	84,872 07	-----	-----	84,872 07	-----	84,872 07	4
2,429 42	118,639 33	-----	-----	121,068 75	7,067 75	128,136 50	5
-----	7,669 69	-----	-----	7,669 69	-----	7,669 69	6
958 72	28,375 71	-----	-----	29,334 43	-----	29,334 43	7
-----	31,149 80	-----	-----	31,149 80	-----	31,149 80	8
\$9,838,565 87	\$21,288,588 09	\$299,912 89	\$21,588,500 98	\$31,427,166 85	\$614,634 66	\$32,031,691 21	

22.—TRAIN MILEAGE AND TRAFFIC—MICHIGAN.

No. of road.	Railroads.	Passenger train miles.
1	Ann Arbor.....	325,554
3	Au Sable & Northwestern.....	
5	Boyne City & Southeastern.....	8,764
7	Chicago, Detroit & C. G. T. Junction.....	204,532
8	Chicago & Grand Trunk.....	677,119
9	Chicago, Kalamazoo & Saginaw.....	57,938
10	Chicago, Milwaukee & St. Paul.....	47,426
12	Chicago & Northwestern.....	420,734
13	Chicago & West Michigan.....	798,544
17	Cincinnati Northern.....	26,321
18	Cincinnati, Saginaw & Mackinaw.....	69,562
19	Cleveland, Cincinnati, Chicago & St. Louis.....	56,236
20	Detroit, Grand Haven & Milwaukee.....	472,983
21	Detroit, Grand Rapids & Western.....	658,945
22	Detroit, Toledo & Milwaukee.....	196,073
23	Detroit & Lima Northern.....	152,074
24	Detroit & Mackinac.....	188,804
27	Duluth, South Shore & Atlantic.....	503,944
28	Flint & Pere Marquette.....	1,133,361
29	Gogebic & Montreal Riv. (op'd by Wis. Cent.).....	21,258
31	Grand Rapids & Indiana System.....	856,661
34	Hancock & Calumet.....	24,439
36	Terre Haute & Indianapolis.....	36,730
38	Lake Shore & Michigan Southern System.....	893,228
47	Lowell & Hastings.....	
48	Manistee & Grand Rapids.....	
49	Manistee & Northeastern.....	98,972
51	Manistique.....	
52	Manistique & Northwestern.....	
53	Mason & Oceana.....	16,000
54	Michigan Air Line Railway.....	83,075
55	Michigan Central System.....	2,515,540
71	Milwaukee, Benton Harbor & Columbus.....	36,100
72	Mineral Range.....	37,207
73	Minneapolis, St. Paul & Sault Ste. Marie.....	160,149
74	Munising.....	22,471
75	Pontiac Oxford & Northern.....	63,100
76	Saginaw, Tuscola & Huron.....	88,544
78	South Haven & Eastern.....	
81	Toledo, Saginaw & Muskegon.....	76,711
82	Wisconsin & Michigan.....	18,192
83	Wabash.....	297,965
ORE AND FOREST ROADS.		
1	Bear Lake & Eastern.....	
2	Crawford & Manistee River.....	
5	Lake Superior & Ishpeming.....	11,944
6	Lewiston & Southeastern.....	
7	Manistee & Luther.....	
8	Quincy & Torch Lake.....	
	Total.....	11,341,296

22.—TRAIN MILEAGE AND TRAFFIC.—CONCLUDED.

Freight train miles.	Total for trains earning revenue.	Through passengers, number.	Local passengers, number.	Total passengers, number.	Passengers carried one mile, number.	No. of road.
629,080	954,634	571	361,323	361,894	12,653,980	1
30,000	45,000					3
27,700	36,464		1,631	1,631	37,507	5
59,035	281,174	43,766	170,754	214,520	5,585,984	7
1,470,335	2,147,454	96,906	237,255	333,161	37,483,048	8
	86,094	4,848	46,037	50,885	952,929	9
159,362	264,974	5,382	178,254	183,636	6,904,303	10
1,103,454	1,624,465	1,512	255,313	256,825	7,788,442	12
860,972	1,659,516	7,132	867,379	874,511	28,202,717	13
24,492	75,727	3,006	39,848	42,854	1,042,865	17
35,294	104,856	6,735	60,143	66,878	1,558,840	18
48,620	115,430	9,749	74,975	84,724	1,786,369	19
237,389	873,819	2,967	556,794	559,761	16,924,194	20
572,216	1,300,832	27,795	811,997	839,792	29,513,658	21
220,291	421,730	9,166	59,357	68,523	2,263,991	22
	269,147	12,324	59,858	72,182	2,396,109	23
101,299	477,188			126,941	4,674,697	24
207,154	1,162,317	59,835	283,919	343,254	15,697,842	27
555,535	2,453,340	37,270	1,010,816	1,048,086	31,448,212	28
1,244,505	43,419	15,924	20,448	36,372	172,049	29
22,166						
731,628	1,663,111	73,337	931,781	1,005,118	31,926,753	31
250,011	276,431	925	59,140	60,065	426,129	34
21,853	57,583	1,694	19,833	21,727	540,639	35
799,426	1,662,654	17,727	999,338	1,017,065	28,511,360	38
	20,000		15,255	15,255	106,785	47
	55,246		2,698	2,698	53,461	48
55,246	198,429	12,437	80,154	92,591	2,107,058	49
91,019	65,226		12,678	12,678	253,560	51
40,186	24,835		5,854	5,854	117,087	52
	18,000		3,522	3,522	56,352	53
10,684	155,491	22	88,671	88,693	1,520,984	54
3,577,860	6,488,253	189,904	1,760,690	1,950,594	89,830,005	55
	52,650					71
61,895	99,102	11,418	127,882	139,300	1,436,483	72
	282,932					
282,932	543,421	27,030	54,447	81,477	5,678,511	73
19,507	62,058		16,099	16,099	212,602	74
40,329	171,956	507	82,928	83,435	1,779,713	75
49,541	138,035	8,279	75,798	84,077	2,128,041	76
	65,373	2,758	47,100	49,858	813,460	78
10,373	149,722	743	37,022	37,765	869,818	81
15,900	34,092	2,188	10,106	12,294	152,374	82
348,793	646,753			164,127	10,019,713	83
18,297	18,297					1
13,620	6,810					2
45,642	57,586	9,128	873	10,001	178,892	5
10,296	10,296					6
			999	999	31,968	7
14,976	14,976					8
14,186,913	27,149,021	701,685	9,578,969	10,591,752	385,839,484	

28.—TRAFFIC—MICHIGAN.

No. of road.	Railroads.	Average distance traveled by each passenger.	Average fare paid by each passenger.	Average through rate per mile.	Average local rate per mile.	Average rate per mile for all passengers.	Tons of freight moved.	Tons of local freight moved.	Total tons of freight moved.	No. of road.
1	Ann Arbor.....	34.9	60	0.96	01.98	01.97	160,972	1,019,134	1,180,106	1
2	Arcadia & Beesey River.....						4,968	13,983	18,951	2
3	Ann Arbor & N. Western.....							31,159	31,159	3
4	Ann Arbor & N. Western.....							78,158	85,411	4
5	Bayne City & Southwestern.....	23	60		03	03	7,253	151,247	197,311	5
6	Chicago, Detroit & C. T. Junction.....	26.04	54.025	02.224	01.965	02.008	46,064			6
7	Chicago & Grand Trunk.....							736,313	1,748,727	7
8	Chicago, Kellogg & Saginaw.....	97.8	148.72	01.17	01.87	02.47	1,007,414	10,227	1,017,641	8
9	Chicago, Milwaukee & Saginaw.....	18,727	43.4	01.9	02.4	02.3	55,089	930,012	985,101	9
10	Chicago, Milwaukee & St. Paul.....	37.40	87.154	02.200	02.322	02.318	84,262	290,012	374,274	10
11	Chicago & North Western.....	27,910	52.963	02.072	01.886	01.947	1,718	5,318,282	5,319,970	11
12	Chicago & West Michigan.....	32.250	64.906	00.972	02.065	02.015	28,322	1,457,379	1,485,701	12
13	Cincinnati Northern.....	24.3	49.75	02.270	02.189	02.044	6,611	63,416	70,027	13
14	Cincinnati, Saginaw & Mackinaw.....	23.3	51.70	01.93	02.30	02.22	141,339	196,914	338,253	14
15	Cleveland, Cincinnati, Chicago & St. Louis.....	21.1	38.6	01.742	01.848	01.830	383,878	611,971	995,849	15
16	Detroit, Grand Haven & Milwaukee.....	30.9	63.87	01.93	02.12	02.11	104,751	520,337	625,088	16
17	Detroit, Grand Rapids & Western.....	36.144	66.453	01.765	01.911	01.891	145,080	726,429	871,519	17
18	Detroit, Toledo & Milwaukee.....	33.04	62.08	01.610	01.942	01.878	91,018	249,075	340,093	18
19	Detroit & Lima Northern.....	31.1953	43.45	00.53	01.72	01.309	30,069	196,668	226,737	19
20	Detroit & Mackinac.....	36.825	126.784			02.492			582,712	20
21	Duluth, South Shore & Atlantic.....	46.732	66.930	02.474	02.983	02.772	544,497	1,606,139	2,149,636	21
22	Flint & Pere Marquette.....	30		02.050	02.217	02.197	965,606	1,338,512	2,304,120	22
23	Gogebic & Montreal River (Op'd by Wis. Cent.).....	4.73	13.704	02.841	02.916	02.897	1,008,804	77	1,008,881	23
24	Grand Rapids & Indiana System.....	31.73	46	01.676	02.117	02.073	184,250	1,495,669	1,679,919	24
25	Hancock & Calumet.....	7.094	91.387	03.169	03.004	03.008	19,190	1,581,904	1,601,094	25
26	Terre Haute & Indianapolis.....	24.9	50	01.7	02.1	02.000	81,000	1,538	1,539	26
27	Lake Shore & Michigan Southern System.....	28.03	59.63	02.099	02.129	02.127	166,337	2,063,338	2,229,675	27
28	Lowell & Hastings.....	7	17.60		02.53	02.53		17,947	17,947	28
29	Manistee & Grand Rapids.....	19.8160	42		02.21	03		186,329	186,329	29
30	Manistee & Northeastern.....	22.7	49.4	01.8	02.3	02.2	75,395	291,035	370,330	30
31	Manistique.....	20	80		04	01		147,328	147,328	31
32	Manistique & Northwestern.....	20	66.66		03.33	03.33		292,751	292,751	32
33	Mason & Oceana.....	16						34,483	34,483	33
34	Michigan Air Line Railway.....	17.15	37.506	01.692	02.188	02.187	15,544	108,491	124,035	34
35	Michigan Central System.....	46.06	1,059	02.0255	02.4097	02.2994	3,107,968	3,022,885	6,130,853	35
36	Mineral Range.....	10.312	31.270	03.390	03.006	03.032	102,613	156,444	259,057	36
37	Minneapolis, St. Paul & Sault Ste. Marie.....	49.69	1.29	01.53	02.8	01.85	1,169,498	815,414	1,985,060	37
38	Munising.....	13.2666	50		02.8	03.8	13,807	115,100	128,907	38
39	Pondac, Oxford & Northern.....	21.3	55	02.23	02.56	02.58	2,704	106,742	109,446	39

76	Saginaw, Tuscola & Huron.....	25.3106	51.531	01.969	02.040	02.086	40.005	94.460	134.474	76
78	South Haven & Eastern.....	16.3	31.3	01.96	01.92	01.98	12.810	4,019	16,829	78
81	Toledo, Saginaw & Muskegon.....	23	58.96	02.41	02.57	02.53	10,069	88,830	98,919	81
82	Wisconsin & Michigan.....	12	33	03.04	02.90	02.97	24,360	226,850	51,210	82
83	Wabash.....	54.4		01.24		01.83			333,900	83
ORE AND FOREST ROADS.										
2	Crawford & Manistee River.....						37,063		37,063	2
5	Lake Superior & Ishpeming.....	17.98	23	01.2	02.2	01.3	926,020	114,153	1,109,173	5
7	Manistee & Lathrop.....	32	96			03				7
8	Quincy & Torch Lake.....						543,522		543,522	8
Total.....		27.9297	28.905			01.352	11,426,884	25,492,670	37,830,118	

22—TRAFFIC—MICHIGAN.

No. of Road.	Railroads.	Average distance traveled by each passenger.	Average fare paid by each passenger.	Average through rate per mile.	Average local rate per mile.	Average rate per mile for all passengers.	Tons of through freight moved.	Tons of local freight moved.	Total tons of freight moved.	No. of Road.
1	Ann Arbor.....	34.9	69	0.96	01.98	01.97	199,972	1,019,134	1,189,106	1
2	Arcadia & Betsey River.....	.....	.....	.....	.....	.....	4,968	13,963	18,931	2
3	Au Sable & Northwestern.....	.....	.....	.....	.....	.....	.....	31,159	31,159	3
4	Boyer City & Southeastern.....	.....	69	.....	03	03	7,253	78,158	85,411	4
5	Chicago, Detroit & C. G. T. Junction.....	26.04	54.925	02.224	01.995	02.008	46,094	151,247	197,341	5
6	Chicago & Grand Trunk.....	.....	.....	.....	.....	.....	.....	736,313	1,743,727	6
7	Chicago, Kalamazoo & Saginaw.....	97.8	143.72	01.17	01.87	01.47	1,007,414	10,227	1,017,641	7
8	Chicago, Milwaukee & St. Paul.....	18,727	43.6	01.9	02.4	02.3	55,069	10,227	65,296	8
9	Chicago, Milwaukee & St. Paul.....	37.60	87.154	02.290	02.322	02.318	84,292	290,012	374,304	9
10	Chicago & North Western.....	27.210	52.963	02.072	01.936	01.947	1,718	5,318,252	5,319,970	10
11	Chicago & West Michigan.....	32.250	64.996	00.972	02.065	02.015	28,322	1,457,379	1,485,701	11
12	Cincinnati Northern.....	24.3	49.75	02.270	02.169	02.044	6,611	63,416	70,027	12
13	Cincinnati, Saginaw & Mackinaw.....	23.3	51.70	01.93	02.30	02.22	55,575	141,339	196,914	13
14	Cleveland, Cincinnati, Chicago & St. Louis.....	21.1	38.6	01.742	01.848	01.830	383,378	228,593	611,971	14
15	Detroit, Grand Haven & Milwaukee.....	30.2	63.87	01.93	02.12	02.11	104,751	529,337	634,088	15
16	Detroit, Grand Rapids & Western.....	35.144	66.453	01.765	01.911	01.891	145,090	726,429	871,519	16
17	Detroit, Toledo & Milwaukee.....	33.04	62.06	01.610	01.942	01.878	91,018	249,075	340,093	17
18	Detroit & Lima Northern.....	31,195	43.45	00.53	01.72	01.309	30,069	196,608	226,677	18
19	Detroit & Mackinac.....	36.825	123.784	02.474	02.983	02.772	544,497	1,006,139	1,550,636	19
20	Duluth, South Shore & Atlantic.....	45.732	65.930	02.050	02.217	02.197	995,606	1,338,512	2,334,120	20
21	Flint & Pere Marquette.....	30	.....	.....	.....	.....	.....	.....	.....	21
22	Gogebic & Montreal River (Op'd by Wis. Cent.).....	4.73	13.704	02.841	02.916	02.897	1,006,804	77	1,006,881	22
23	Grand Rapids & Indiana System.....	31.76	66	01.675	02.073	02.073	184,250	1,495,669	1,679,919	23
24	Hancock & Calumet.....	7.094	21.337	03.169	03.004	03.008	19,190	1,581,906	1,601,096	24
25	Terre Haute & Indianapolis.....	24.9	50	01.7	02	02	81,000	17,585	98,585	25
26	Lake Shore & Michigan Southern System.....	28.03	59.63	02.069	02.129	02.127	165,337	2,063,539	2,228,876	26
27	Lowell & Hastings.....	7	17.69	.....	02.53	02.53	.....	17,947	17,947	27
28	Manistee & Grand Rapids.....	19,8150	62	.....	25.21	03	.....	186,329	186,329	28
29	Manistee & Northeastern.....	22.7	49.4	01.8	02.3	02.2	75,395	231,935	257,330	29
30	Manistique.....	20	80	.....	04	04	.....	147,325	147,325	30
31	Manistique & Northwestern.....	66.66	.....	.....	03.33	03.33	.....	232,751	232,751	31
32	Mason & Oceana.....	16	48	.....	03	.....	.....	34,553	34,553	32
33	Michigan Air Line Railway.....	17.15	37.505	01.629	02.188	02.187	15,564	105,481	121,045	33
34	Michigan Central System.....	46.05	1.059	02.0255	02.4097	02.167	3,167,968	3,022,985	6,190,953	34
35	Mineral Range.....	10.312	31.270	03.390	03.006	03.032	102,613	156,444	259,057	35
36	Minneapolis, St. Paul & Sault Ste. Marie.....	69.69	1.29	01.53	02.59	01.85	1,169,636	815,414	1,985,050	36
37	Munising.....	13.2059	50	.....	03.8	03.8	13,897	101,293	115,190	37
38	Pontiac, Oxford & Northern.....	21.3	55	02.28	02.58	02.58	2,704	105,742	108,446	38

76	Saginaw, Tuscola & Huron.....	25,3106	51,531	01,869	02,069	02,036	40,005	94,469	124,474	76
78	South Haven & Eastern.....	16.3	31.3	01.96	01.92	01.93	12,810	4,019	16,829	78
81	Toledo, Saginaw & Muskegon.....	23	58.96	02.41	02.57	02.56	10,089	88,880	98,919	81
82	Wisconsin & Michigan.....	12	33	03.04	02.90	02.97	24,380	25,850	51,210	82
83	Wabash.....	54.4		01.24		01.83			333,900	83
ORE AND FOREST ROADS.										
2	Crawford & Manistee River.....									
5	Lake Superior & Ishpeming.....	17.96	23	01.2	02.2	01.3	37,063		37,063	2
7	Manistee & Lathrop.....	32	96			03	996,020	114,153	1,109,173	7
8	Quincy & Torch Lake.....						543,562		543,562	8
Total.....										
		27,9297	28,905			01,352	11,426,834	25,492,670	37,880,118	

24.—TRAFFIC FOR MICHIGAN.

No. of road.	Railroads.	Mileage.		
		Through freight.	Local freight.	Total tons moved one mile.
1	Ann Arbor.....	48,644,286	101,670,625	150,314,911
2	Arcadia & Betsey River.....			
5	Boyer City & Southeastern.....	4,382	27,700	1,066,825
7	Chicago, Detroit & C. G. T. Junction.....	2,669,627	3,792,472	6,462,099
8	Chicago & Grand Trunk.....	225,660,736	79,631,696	305,292,432
9	Chicago, Kalamazoo & Saginaw.....	966,086	229,127	1,186,212
10	Chicago, Milwaukee & St. Paul.....	18,618,172	52,400,786	71,018,958
12	Chicago & Northwestern.....	188,852	239,240,821	239,429,673
13	Chicago & West Michigan.....	3,601,285	119,530,680	123,131,965
17	Cincinnati Northern.....	563,787	5,541,028	6,104,815
18	Cincinnati, Saginaw & Mackinaw.....	2,945,475	4,518,281	7,463,756
19	Cleveland, Cincinnati, Chicago & St. Louis.....	13,226,542	5,966,281	19,192,823
20	Detroit, Grand Haven & Milwaukee.....	17,201,214	21,856,490	39,056,704
21	Detroit, Grand Rapids & Western.....	21,724,676	56,208,997	77,933,673
22	Detroit, Toledo & Milwaukee.....	9,420,093	25,419,082	34,839,175
23	Detroit & Lima Northern.....	3,604,969	16,491,278	19,096,237
24	Detroit & Mackinac.....			45,411,797
27	Duluth, South Shore & Atlantic.....	62,601,260	31,399,249	94,000,509
28	Flint & Pere Marquette.....	158,384,818	108,375,048	266,759,866
29	Gogebic & Montreal River (Op'd by Wis. Cent.).....	6,234,342	462	6,234,804
31	Grand Rapids & Indiana System.....	24,394,990	123,601,526	147,996,516
34	Hancock & Calumet.....	157,581	11,433,731	11,591,312
36	Terre Haute & Indianapolis.....	2,110,000	354,006	2,464,006
38	Lake Shore & Michigan Southern system.....	14,519,965	120,152,760	134,672,725
47	Lowell & Hastings.....		7	125,629
48	Manistee & Grand Rapids.....		55,246	7,077,963
49	Manistee & Northeastern.....	2,557,963	9,593,021	12,150,984
51	Manistique.....		58,966	3,789,945
52	Mainistique & Northwestern.....		5,818,775	5,881,775
53	Mason & Oceana.....		18,000	304,464
54	Michigan Air Line Railway.....	1,647,546	3,821,437	5,468,983
55	Michigan Central System.....	484,586,590	298,677,395	777,263,985
72	Mineral Range.....	791,263	1,282,250	2,073,513
73	Minneapolis, St. Paul & Sault Ste. Marie.....	62,944,262	37,353,882	100,298,144
74	Munising.....	425,898	656,108	1,082,006
75	Pontiac, Oxford & Northern.....	242,084	3,208,537	3,450,621
76	Saginaw, Tuscola & Huron.....	1,447,980	3,744,200	5,192,180
78	South Haven & Eastern.....	112,740	84,920	197,660
81	Toledo, Saginaw & Muskegon.....	1,180,413	4,053,714	5,234,127
82	Wisconsin & Michigan.....	312,381	269,761	582,142
83	Wabash.....			77,621,021
ORE AND FOREST ROADS.				
2	Crawford & Manistee River.....	10		37,068
5	Lake Superior & Ishpeming.....	20,688,424	2,094,848	22,783,272
8	Quincy & Torch Lake.....	6		3,261,552
Total.....		1,214,370,627	1,488,932,192	2,844,887,781

24.—TRAFFIC FOR MICHIGAN.—CONCLUDED.

Ton haul.			Rates.				No. of road.
Through miles.	Local miles.	All miles.	Average amount each ton haul.	Per ton per mile through.	Per ton per mile local.	Per ton per mile all.	
286.2	99.7	126.4	69.1	.23	.70	.55	1
49	31	36	.242	.682	.924	.24	2
5	13	12.49	49	.183	.36	.49	5
57.95	25.07	32.57	54.297	01.299	01.910	01.658	7
224	106.1	175.1	98.50	00.47	00.83	00.56	8
17.36	22.40	18.15	55.4	03	03.1	03	9
220.95	180.68	189.75	179.927	00.771	01.011	00.948	10
110	45	45	31	00.91	00.70	00.70	12
1,271.550	820.175	828.780	80.687	00.744	00.980	00.974	13
85.0	87.3	87.2	74.73	00.981	00.844	00.857	17
53	32	37.9	48.81	01.21	01.34	01.29	18
34.5	26.1	31.4	16.810	00.426	00.749	00.536	19
164.2	41.3	61.6	78.61	00.45	01.93	01.28	20
149.732	77.377	89.423	96.175	00.805	01.186	01.076	21
103.4	103.0	102.4	57.71	00.472	00.601	00.563	22
64.3274	62.7384	63.3871	43.72	00.541	00.467	00.511	23
114.971	19.562	77.98	65.415	00.878	01.693	00.894	24
159.0838	80.9668	43.729	50.288	00.878	01.693	01.150	27
6.19	8.00	114.2871	77.887	00.392	01.103	00.681	28
132.40	82.64	6.19	04.79	00.771	.974	00.773	29
8.212	7.228	88.10	73	.579	.872	.824	31
25	20	7.240	11.643	06.113	01.560	01.608	34
87.8	58.2	24	32	1.13	1.99	.126	36
		60.4	49	00.505	00.860	00.813	38
	.7	7	56		8	8	47
33.9	37.9863	37.9863	40		1.06	1.06	48
	32.5	32.8	55.9	01.7	01.7	01.7	49
	25.72		56.45		02.2	02.2	51
	25	25	38.8		1.55	1.55	52
	100	100	39		03.8	03.8	53
105.60	36.83	45.18	53.764	00.805	01.442	01.190	54
153	81	114	81	0.545	0.948	0.710	55
7.711	8.196	8.004	43.502	06.713	04.646	05.435	72
53	45	51	23	00.4	00.52	00.45	73
30.8465	9.4390	12.0070	37	03	03	03	74
89.5	30.3	31.8	86.63	01.51	02.81	02.72	75
36.1950	39.6342	38.6110	65.526	1.857	1.635	1.697	76
8.8	21.1	11.7	98.8	.127	2.7	0.8	78
117.0	45.6	52.9	85.13	00.79	01.79	00.61	81
12	10	11	43	.23	.46	.43	82
		232.5	132.23			00.569	83
10		10	25.96	02.595		02.595	2
20.79	18.35	20.54	10.69	00.51	00.58	00.52	5
	05.75	01		01	01		8
106.27	58.40	75.20	26.618			75.88	

25.—TONNAGE AND COMMODITIES MOVED—MICHIGAN.

No. of road.	Railroads.	Agricultural products, tons.	Animal products, tons.	Mineral products, tons.
1	Ann Arbor.....	238,510	21,943	292,793
2	Arcadia & Betsey River.....	1,723	36	2,459
5	Boyer City & Southeastern.....	980	125	36
7	Chicago, Detroit & C. G. T. Junction.....	44,473	6,632	37,151
8	Chicago & Grand Trunk.....	572,547	111,282	103,228
9	Chicago, Kalamazoo & Saginaw.....	9,799	2,672	24,798
10	Chicago, Milwaukee & St. Paul.....	1,699	1,782	426,815
12	Chicago & Northwestern.....	24,578	2,698	4,457,357
13	Chicago & West Michigan.....	254,327	20,335	193,633
17	Cincinnati Northern.....	17,298	2,613	17,434
18	Cincinnati, Saginaw & Mackinaw.....	22,616	5,735	197,250
19	Cleveland, Cincinnati, Chicago & St. Louis.....	201,579	7,166	210,088
20	Detroit, Grand Haven & Milwaukee.....	261,706	29,004	82,070
21	Detroit, Grand Rapids & Western.....	238,997	30,023	83,895
22	Detroit, Toledo & Milwaukee.....	47,685	5,905	182,467
23	Detroit & Lima Northern.....	17,618	4,831	152,855
24	Detroit & Mackinac.....	16,858	5,809	12,720
27	Duluth, South Shore & Atlantic.....	154,286	18,401	1,336,564
28	Flint & Pere Marquette.....	507,676	54,869	602,748
29	Gogebic & Montreal River (Op'd by Wis. Cent.).....	3,538	142	991,030
31	Grand Rapids & Indiana System.....	308,777	23,613	312,601
34	Hancock & Calumet.....	4,075	18	1,437,368
36	Terre Haute & Indianapolis.....	28,244	302	26,114
38	Lake Shore & Michigan Southern System.....	406,039	59,064	758,520
47	Lowell & Hastings.....	6,829	1,605	1,194
48	Manistee & Grand Rapids.....	982	51	16,753
49	Manistee & Northeastern.....	18,496	1,621	24,332
51	Manistique.....			
52	Manistique & Northwestern.....	954	150	2
53	Mason & Oceana.....	600	62	
54	Michigan Air Line Railway.....	38,114	2,746	21,307
55	Michigan Central System.....	1,434,338	643,336	1,516,726
72	Mineral Range.....	17,957	4,409	154,500
73	Minneapolis, St. Paul & Sault Ste. Marie.....	545,877	33,923	553,585
74	Munising.....	2,465	3,245	419
75	Pontiac, Oxford & Northern.....	44,494	6,221	11,885
76	Saginaw, Tuscola & Huron.....	33,245		65,071
78	South Haven & Eastern.....	4,590	258	680
81	Toledo, Saginaw & Muskegon.....	42,706	4,526	11,027
82	Wisconsin & Michigan.....	2,316	215	419
83	Wabash.....	91,764	36,272	93,044
ORE AND FOREST ROADS.				
2	Crawford & Manistee River.....			
4	Hecla & Torch Lake.....	534		1,500,469
5	Lake Superior & Ishpeming.....			1,109,663
7	Manistee & Luther.....			
8	Quincy & Torch Lake.....			543,592
Total.....		4,670,934	1,453,645	17,566,250

25.- TONNAGE AND COMMODITIES MOVED—MICHIGAN.—CONCLUDED.

Forest products, tons.	Manufactures, tons.	Merchandise, tons.	Miscellaneous, tons.	Total tons.	Total tonnage previous year.	Freight originating on this road, tons.	No. of road
385,594	158,086	38,761	53,419	1,189,106	969,063	154,780	1
14,368	147	218	-----	18,961	255	18,588	2
83,232	680	179	179	85,411	37,025	33,448	5
31,841	26,693	39,687	9,834	197,311	267,147	85,333	7
127,724	109,872	183,874	235,200	1,743,727	1,477,487	600,566	8
11,896	7,385	3,139	5,606	65,295	60,774	27,008	9
516,859	2,255	-----	6,183	955,094	456,676	910,887	10
337,741	20,612	17,946	312,554	5,173,486	4,021,854	5,142,528	12
622,539	160,541	185,034	99,272	1,485,701	1,085,367	1,069,913	13
15,897	10,874	2,767	3,127	70,080	-----	38,620	17
72,781	10,531	12,541	17,760	196,914	145,129	141,746	18
125,975	30,713	24,114	12,338	611,971	504,893	133,672	19
73,670	54,965	101,761	30,912	634,068	528,694	269,104	20
256,236	90,088	107,605	74,695	871,519	599,741	584,086	21
9,027	34,728	24,800	11,936	340,048	9,559	79,080	22
2,285	25,314	11,737	12,097	226,737	-----	107,097	23
513,008	10,234	19,452	4,236	532,712	433,536	574,863	24
414,029	53,983	67,115	105,258	2,149,686	2,272,490	1,811,286	27
491,514	268,138	206,410	202,770	2,384,120	1,608,878	1,072,199	28
7,881	1,810	1,552	978	1,006,881	746,700	972,828	29
805,494	284,008	18,201	31,419	1,784,113	1,349,386	962,783	31
34,626	9,634	11,139	104,236	1,601,096	1,118,980	1,591,081	34
23,486	11,585	4,884	3,960	98,585	79,120	17,585	36
284,160	444,381	70,740	242,961	2,228,875	2,683,631	648,430	38
3,373	304	1,100	3,295	17,947	13,543	12,129	47
166,671	1,097	295	480	186,329	64,275	161,524	48
314,613	5,160	1,916	4,392	870,330	259,133	345,475	49
140,752	-----	6,576	-----	147,328	188,895	147,328	51
230,998	34	613	-----	232,761	-----	232,761	52
31,520	71	2,400	-----	34,653	22,876	34,663	53
16,660	14,385	13,502	14,531	121,045	213,906	85,217	54
1,410,988	1,364,681	420,779	420,779	6,790,843	5,739,643	3,323,065	55
28,137	18,088	27,741	5,225	259,067	124,025	174,199	72
648,025	121,799	48,050	33,791	1,985,050	1,284,056	1,348,147	73
79,379	6,945	20,109	2,538	115,100	78,642	101,293	74
19,822	12,324	12,597	2,103	108,446	86,092	70,952	75
22,428	-----	-----	11,001	134,474	95,264	129,986	76
3,019	2,645	5,732	-----	16,829	8,275	9,045	78
18,058	6,335	4,983	11,084	98,919	80,209	82,383	81
41,000	3,652	196	2,413	50,210	119,196	41,420	82
25,015	26,455	22,502	38,838	333,900	235,187	-----	83
37,063	-----	-----	-----	37,063	31,147	37,063	2
23,686	5,861	-----	620	1,531,170	1,460,622	1,531,170	4
90	-----	-----	-----	1,109,173	299,556	1,079,259	5
29,000	-----	1,000	-----	30,000	51,400	30,000	7
-----	-----	-----	-----	543,592	555,543	-----	8
8,551,565	3,417,098	1,272,957	2,135,020	39,905,616	31,465,569	26,368,880	

26.—PERMANENT WAY.—MICHIGAN.

No. of road.	Railroads.	Fencing.	
		Completed miles, number.	Required miles, number.
1	Ann Arbor.....	562	583
2	Arcadia & Betsey River.....	21	20
3	Au Sable & Northwestern.....		
5	Boyne City & Southeastern.....		
7	Chicago, Detroit & C. G. T. Junction.....	12,274	
8	Chicago & Grand Trunk.....	448	
9	Chicago, Kalamazoo & Saginaw.....	87	
10	Chicago, Milwaukee & St. Paul.....	159.4823	136.3097
12	Chicago & Northwestern.....	683.36	359.02
13	Chicago & West Michigan.....	910	992
17	Cincinnati Northern.....	76.65	
18	Cincinnati, Saginaw & Mackinaw.....	116	
19	Cleveland, Cincinnati, Chicago & St. Louis.....	70.28	70.28
20	Detroit, Grand Haven & Milwaukee.....	373	
21	Detroit, Grand Rapids & Western.....	726.19	
22	Detroit, Toledo & Milwaukee.....	297.5	
23	Detroit & Lima Northern.....	87	
24	Detroit & Mackinac.....	218.75	
27	Duluth, South Shore & Atlantic.....	527.02	402.46
28	Flint & Pere Marquette.....		50.85
29	Gogebic & Montreal River (Op'd by Wis. Cent.).....	5.87	
31	Grand Rapids & Indiana System.....	395	
34	Hancock & Calumet.....	3,600	2,780
36	Terre Haute & Indianapolis.....	45.05	
38	Lake Shore & Michigan Southern System.....	1,072.38	
47	Lowell & Hastings.....	21	
48	Manistee & Grand Rapids.....	25	
49	Manistee & Northeastern.....	108	64
51	Manistique.....		
52	Manistique & Northwestern.....		
53	Mason & Oceana.....	20	27
54	Michigan Air Line Railway.....	215	
55	Michigan Central System.....	2,206	6,622
70	Midland & Northern.....	8	20
71	Milwaukee, Benton Harbor & Columbus.....	18	24
72	Mineral Range.....	3,274	1,662
73	Minneapolis, St. Paul & Sault Ste. Marie.....	244.5	
74	Munising.....		
75	Pontiac, Oxford & Northern.....	197.6	
76	Saginaw, Tuscola & Huron.....	133.14	
78	South Haven & Eastern.....	39.2	
79	St. Clair Tunnel.....	1.01	
81	Toledo, Saginaw & Muskegon.....	193	
82	Wisconsin & Michigan.....	.25	
83	Wabash.....	75.2	
ORE AND FOREST ROADS.			
1	Bear Lake & Eastern.....	17	36
2	Crawford & Manistee River.....		
4	Hecla & Torch Lake.....	15	
5	Lake Superior & Ishpeming.....	14.2	
6	Lewiston & Southeastern.....		
7	Manistee & Luther.....	4	
8	Quincy & Torch Lake.....	12	12
	Total.....	29,596.23	13,860.9197

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22.—PERMANENT WAY.—CONCLUDED.

Maintenance.				New rails laid in Michigan.		Ties—Number put in during the year.			No. of road.
Trestles replaced with earth, in feet.	Track sections in Michigan, number.	Average length of sections, miles.	Average number of men to each section.	Tons.	Miles of track.	Entire line.	In Michigan.	Average per mile in Michigan.	
-----	46	6.25	4	125.02	1.25	116,111	113,823	398	1
-----	1	20.50	2	-----	-----	5,786	5,786	282	2
-----	4	17.50	3	251	5	5,450	5,450	218	3
-----	8	5	4	-----	-----	13,382	13,382	156	4
-----	12	-----	-----	-----	-----	-----	-----	-----	5
-----	45	5	4	4,429	35.30	37,883	24,780	66	6
-----	7	6.50	3	-----	-----	10,000	10,000	-----	7
1,040	21	7	3	-----	-----	1,704,311	60,321	397	8
1,138.50	85	6.13	4.6	33,027.0128	258.74	1,694,911	220,403	334	9
295	109	5.50	3	1,050.800	9.495	290,000	272,860	371	10
-----	7	6.33	3	-----	-----	74,532	8,571	358	11
-----	8	7.3	3	14	.07	8,892	8,892	101	12
-----	5	6.08	3	12,280.56	98.24	652,228	7,841	223	13
-----	37	5.11	4	-----	-----	45,612	45,612	177	14
-----	72	5.50	3	1,059.540	18.97	152,496	152,496	320	15
-----	21	6.33	3	-----	-----	41,871	41,871	315	16
-----	9	6.5	4	109.140	1.70	-----	-----	-----	17
-----	36	7	4	1,825	15.90	51,266	51,266	208	18
749	89	5.33	5	1,801.1560	16.38	194,897	180,396	340	19
4,763.5	118	7.85	4	2,072.5	18.84	358,201	358,201	391	20
-----	3	9.81	-----	6,428	.7	2,402	146	-----	21
-----	85	5.28	3.38	1,430.179	13.0	182,738	118,553	311	22
-----	8	4.24	5	-----	-----	6,360	6,360	199	23
-----	4	6	3	-----	-----	9,755	6,210	248	24
665'.4"	96	5.7	5	15.756	125.52	640,110	111,748	453	25
-----	20	12.5	5	-----	-----	2,232	2,232	179	26
-----	5	6.5	4	-----	-----	15,183	15,183	227	27
88	12	7	4	1,183	11.5	40,728	40,728	380	28
-----	6	9	5	1	1	13,350	13,350	241	29
-----	6	7	4	-----	-----	-----	-----	-----	30
-----	4	7	4	-----	-----	15,420	15,420	571	31
-----	14	7	4	-----	-----	10,671	10,671	92	32
219	255	4.65	4	5.222	41	741,415	668,593	451	33
-----	4	6.75	2	-----	-----	10,812	10,812	438	34
-----	4	6.17	8	-----	-----	-----	-----	-----	35
3,298	27	7.1	5	4.286	75.8	415,802	91,529	439	36
-----	5	9	4	-----	-----	-----	-----	-----	37
131	16	6.26	2	-----	-----	37,022	37,022	370	38
-----	11	6	3	-----	-----	30,514	30,514	458	39
-----	6	6.1	3	1.632	16	-----	-----	-----	40
-----	1.12	-----	-----	-----	-----	55	10	-----	41
1,452	12	8	3	-----	-----	10,574	10,574	99	42
-----	4	6	3	-----	-----	425	365	-----	43
198	12	6.9	7.5	3.200	25.5	-----	24,815	328	44
-----	1	18	5	-----	-----	4,051	4,051	225	45
-----	1	10	6	-----	-----	5,000	5,000	500	46
-----	3	-----	6	-----	-----	-----	-----	-----	47
-----	5	4	5	-----	-----	-----	-----	-----	48
-----	1	10	5	-----	-----	-----	1,642	164	49
-----	2	15	10	-----	-----	29,920	29,920	2,500	50
-----	1	6	8	2.800	.045	210	210	35	51
15,304'.4"	1,350.12	7.68	4.21	90,071.7158	789.950	7,682,658	2,813,559	360.81	52

27.—HIGHWAY CROSSINGS.—NUMBER.

No. of road.	Railroads.	At grade.	With gates or flagman.	With electric or automatic signals.	Number over.	Number under.	18 feet above tracks.	Less than 18 feet above tracks.	Total.	No. of road.
1	Ann Arbor.....	386	5	6	9	2	6		409	1
2	Aradria & Betsey River.....	23							23	2
3	Au Sable & Northwestern.....	24							24	3
4	Bayne City & Southeastern.....	17							17	4
5	Chicago, Detroit & C. G. T. Junction.....	90	28						90	5
6	Chicago & Grand Trunk.....	263	18	19	2	2	2		267	6
7	Chicago, Kalamazoo & Saginaw.....	66	3						66	7
8	Chicago, Milwaukee & St. Paul.....	51	6	1					51	8
9	Chicago & Northwestern.....	207	20	6	2	7	2		216	9
10	Chicago & West Michigan.....	683	31	1	14	11	1		718	10
11	Cincinnati Northern.....	39		2	2	4	3		45	11
12	Cincinnati, Saginaw and Mackinaw.....	96	11	1					96	12
13	Cleveland, Cincinnati, Chicago & St. Louis.....	56	4		2	1	2		59	13
14	Detroit, Grand Haven & Milwaukee.....	254	88	4	14	6	8		274	14
15	Detroit, Grand Rapids & Western.....	508	17	1	9	11	9		517	15
16	Detroit, Toledo & Milwaukee.....	206	4			2		2	208	16
17	Detroit & Lima Northern.....	83	5	1					83	17
18	Detroit & Mackinac.....	197							197	18
19	Duluth, South Shore & Atlantic.....	194	20		2	9	2		197	19
20	Flint & Pere Marquette.....	867	37	7	3	9	3		205	20
21	Gogebic & Montreal River (Op'd by Wis. Cent.).....	5	1			1			6	21
22	Grand Rapids & Indiana System.....	563	46		7	2	7		572	22
23	Hancock & Calumet.....	13	1		1		1		14	23
24	Terre Haute & Indianapolis.....	24	2		4		4		26	24
25	Lake Shore & Michigan Southern System.....	868	64	6	5	6	4	1	879	25
26	Lowell & Hastings.....	17							17	26
27	Manistee & Grand Rapids.....	35							35	27
28	Manistee & Northeastern.....	72		1					72	28
29	Manistique.....	4	1						4	29
30	Manistique & Northwestern.....	6							6	30
31	Mason & Oceana.....	11							11	31
32	Michigan Air Line Railway.....	130	2		2		2		132	32
33	Michigan Central System.....	1,348	135	31	36	17	35	9	1,401	33
34	Milwaukee, Benton Harbor & Columbus.....	28	1		1	2	1		31	34
35	Mineral Range.....	27	2		1		1		28	35
36	Minneapolis, St. Paul & Sault Ste. Marie.....	5				2			7	36
37	Munising.....	8							8	37

75	Pontiac, Oxford & Northern.....	108	-----	-----	-----	-----	-----	-----	-----	108	75
76	Saginaw, Tuscola & Huron.....	84	4	-----	-----	-----	-----	-----	-----	84	76
78	South Haven & Eastern.....	55	-----	-----	-----	-----	-----	-----	-----	55	78
81	Toledo, Saginaw & Muskegon.....	127	3	-----	2	-----	-----	-----	-----	120	81
82	Wisconsin & Michigan.....	8	-----	-----	-----	-----	-----	-----	-----	3	82
83	Wabash.....	160	1	-----	-----	-----	-----	-----	-----	160	83
ORE AND FOREST ROADS.											
1	Bear Lake & Eastern.....	13	-----	-----	12	-----	-----	-----	-----	26	1
2	Crawford & Manistee River.....	1	-----	-----	-----	1	-----	-----	-----	1	2
5	Lake Superior & Ishpeming.....	9	3	-----	6	-----	-----	-----	-----	15	5
6	Lewiston & Southeastern.....	3	-----	-----	-----	-----	-----	-----	-----	3	6
Total.....											
		8,059	563	87	136	85	95	18			
											8,270

28.—ACCIDENTS IN MICHIGAN.

Number of road.	Railroads.	Killed.				Injured.				Total number of accidents.	Number of road.
		Pas- sengers.	Em- ployes.	Others.	Total.	Pas- sengers.	Em- ployes.	Others.	Total.		
1	Ann Arbor.....	—	1	3	4	—	8	—	8	12	1
5	Boyer City & Southeastern.....	—	—	—	—	—	1	—	1	1	5
7	Chicago, Detroit & C. G. T. Junction.....	—	—	2	2	—	10	—	10	13	7
8	Chicago & Grand Trunk.....	—	1	7	8	—	19	—	19	30	8
10	Chicago, Milwaukee & St. Paul.....	—	1	1	2	—	3	1	4	6	10
12	Chicago & Northwestern.....	—	5	8	13	—	17	6	23	12	12
13	Chicago & West Michigan.....	—	4	6	10	—	13	3	17	27	13
18	Cincinnati, Saginaw & Mackinaw.....	—	—	—	—	—	5	1	6	6	18
19	Cleveland, Cincinnati, Chicago & St. Louis.....	—	—	1	1	—	1	—	1	3	19
20	Detroit, Grand Haven & Milwaukee.....	—	3	5	8	—	13	8	21	20	20
21	Detroit, Grand Rapids & Western.....	—	—	8	8	—	9	—	9	20	21
22	Detroit, Toledo & Milwaukee.....	1	—	—	1	—	1	—	1	3	22
23	Detroit & Lima Northern.....	—	2	1	3	—	1	—	1	7	23
24	Detroit & Mackinac.....	—	—	4	4	—	6	—	6	13	24
27	Duluth, South Shore & Atlantic.....	—	2	2	4	—	35	3	38	42	27
28	Flint & Pere Marquette.....	1	4	10	15	—	8	14	22	40	28
29	Gogebic & Montreal Riv. (Op'd by Wis. C.).....	—	—	—	—	—	8	—	8	8	29
31	Grand Rapids & Indiana System.....	—	4	8	12	—	13	—	13	27	31
34	Hancock & Calumet.....	—	—	1	1	—	14	—	14	17	34
36	Terre Haute & Indianapolis.....	—	—	—	—	—	2	1	3	3	36
38	Lake Shore & Michigan Southern System.....	—	1	7	8	—	11	5	16	25	38
47	Lowell & Hastings.....	—	—	—	—	—	—	—	—	1	47
49	Manistee & Northwestern.....	—	—	2	2	—	2	1	3	5	49
54	Michigan Air Line Railway.....	—	—	1	1	—	5	—	5	6	54
55	Michigan Central System.....	1	5	19	25	—	15	28	43	66	55
73	Mineral Range.....	—	2	—	2	—	14	—	14	18	73
78	Minneapolis, St. Paul & Sault Ste. Marie.....	—	1	1	2	—	93	4	97	99	78
79	Pontiac, Oxford & Northern.....	—	—	3	3	—	—	—	—	3	79
76	Saginaw, Tuscola & Huron.....	—	—	—	—	—	—	—	—	2	76
81	Toledo, Saginaw & Muskegon.....	—	—	—	—	—	2	—	2	2	81
88	Wabash.....	—	—	1	1	—	3	—	3	5	88

ONE AND FOREST ROADS.									
5	Lake Superior & Ishpeming.....							3	3
7	Manistee & Luther.....	1		1	1				1
8	Quincy & Torch Lake.....								1
Total.....		3	87	92	132	20	335	464	596

29.—ACCIDENTS IN MICHIGAN.

No. of road.	Railroads.	Collisions.						Coupling cars.		Derailments.					
		Killed.			Injured.			Employees killed.	Employees injured.	Killed.			Injured.		
		Passengers.	Employees.	Others.	Passengers.	Employees.	Others.			Passengers.	Employees.	Others.	Passengers.	Employees.	Others.
1	Ann Arbor.....					1			2						
5	Boyme City & Southeastern.....														
7	Chicago, Detroit & C. G. T. Junction.....								5						
8	Chicago & Grand Trunk.....								6					2	
10	Chicago, Milwaukee & St. Paul.....								1						
12	Chicago & Northwestern.....					4			6				1		1
13	Chicago & West Michigan.....								5						
18	Cincinnati, Saginaw & Mackinaw.....													2	
19	Cleveland, Cincinnati, Chic. & St. L.....														
20	Detroit, Grand Haven & Milwaukee.....					2		2	6						
21	Detroit, Grand Rapids & Western.....								4						
22	Detroit, Toledo & Milwaukee.....														
23	Detroit & Lima Northern.....														
24	Detroit & Mackinac.....													6	
27	Duluth, South Shore & Atlantic.....								7						
28	Flint & Pere Marquette.....				12			1	2						
31	Grand Rapids & Indiana System.....							1	5					1	
34	Hancock & Calumet.....								4					2	
36	Terre Haute & Indianapolis.....								1						
38	Lake Shore & Mich. Southern System.....							1	5					1	
47	Lowell & Hastings.....														
49	Manistee & Northeastern.....					2									
54	Michigan Air Line Railway.....								1						
55	Michigan Central System.....								8						
72	Mineral Range.....								4						
73	Min., St. Paul & Sault Ste. Marie.....					1			13						
75	Pontiac, Oxford & Northern.....														
76	Saginaw, Tuscola & Huron.....								1						
81	Toledo, Saginaw & Muskegon.....								1						
83	Wabash.....					1			2						
ORE AND FOREST ROADS.															
5	Lake Superior & Ishpeming.....														
7	Manistee & Luther.....														
Total.....					12	11		5	89				1	14	1

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29.—ACCIDENTS IN MICHIGAN.—CONCLUDED.

Falling from trains.			Getting on and off trains.			Highway crossing.			Miscellaneous.			No. of road.
Killed.		Injured.	Killed.		Injured.	Killed.		Injured.	Killed.		Injured.	
Passengers.	Employees.	Others.	Passengers.	Employees.	Others.	Passengers.	Employees.	Others.	Passengers.	Employees.	Others.	
.....	1
.....	5
.....	7
.....	8
.....	10
.....	12
.....	13
.....	18
.....	18
.....	19
.....	20
.....	21
.....	22
.....	23
.....	24
.....	27
.....	28
.....	31
.....	34
.....	36
.....	38
.....	47
.....	49
.....	54
.....	55
.....	72
.....	73
.....	75
.....	76
.....	81
.....	83
.....	5
.....	7
11	4	1	25	3	1	2	1	4	23	4	160	8

30.—CLASSIFICATION OF EMPLOYES KILLED AND INJURED.

No. of road	Railroads.	Baggage-men.	Brakemen.	Conduc-tors.
1	Ann Arbor.....		1	3
5	Boyne City & Southeastern.....		1	
7	Chicago, Detroit & C. G. T. Junction.....		3	
8	Chicago & Grand Trunk.....		4	5
10	Chicago, Milwaukee & St. Paul.....		1	2
12	Chicago & Northwestern.....		4	1
13	Chicago & West Michigan.....		12	
18	Cincinnati, Saginaw & Mackinaw.....		1	
19	Cleveland, Cincinnati, Chicago & St. Louis.....		1	
20	Detroit, Grand Haven & Milwaukee.....		9	2
21	Detroit, Grand Rapids & Western.....		6	
22	Detroit, Toledo & Milwaukee.....		1	
23	Detroit & Lima Northern.....		1	
24	Detroit & Mackinac.....			
27	Duluth, South Shore & Atlantic.....		9	1
28	Flint & Pere Marquette.....		5	
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....			
31	Grand Rapids & Indiana System.....	1	7	1
34	Hancock & Calumet.....		4	1
36	Terre Haute & Indianapolis.....		1	
38	Lake Shore & Michigan Southern System.....		8	
49	Manistee & Northeastern.....			
54	Michigan Air Line Railway.....		1	3
55	Michigan Central System.....		11	
72	Mineral Range.....		6	1
73	Minneapolis, St. Paul & Sault Ste. Marie.....		21	3
76	Saginaw, Tuscola & Huron.....		2	
81	Toledo, Saginaw & Muskegon.....		2	
83	Wabash.....			
ORE AND FOREST ROADS.				
5	Lake Superior & Ishpeming.....			
7	Manistee & Luther.....		1	
	Total.....	1	123	23

30.—CLASSIFICATION OF EMPLOYES KILLED AND INJURED.—CONCLUDED.

Engineers.	Firemen.	Laborers.	Shopmen.	Yardmen.	Un-classified.	Total killed.	Total injured.	Total number.	No. of road.
	1	1	1	1	1	1	8	9	1
							1	1	5
		3		3	1		10	10	7
2	2	1		3	3	1	19	20	8
	1			1		1	4	5	10
2	3	4	1	7		5	17	22	12
1	1	1		1	1	4	13	17	13
		1		2	1		5	5	18
							1	1	19
1	1	3				3	13	16	20
	1	1	1				9	9	21
							1	1	22
	1				1	2	1	3	23
				6			6	6	24
1	1	6	9	4	6	2	35	37	27
	1	1		3	2	4	8	12	28
1	1			5	1		8	8	29
		3		1	4	4	13	17	31
	2	2	1	1	3		14	14	34
			1				2	2	36
		2		1	1	1	11	12	38
1	1				1		3	3	49
		1					5	5	54
		2	1	4	2	5	15	20	55
		2	2		5	2	14	16	72
1	4	54	2	9		1	93	94	73
							2	2	76
							2	2	81
1				2			3	3	83
		1	1	1			3	3	5
						1		1	7
11	21	90	20	55	33	37	338	375	

31.—EMPLOYEES AND SALARIES.

Number of road.	Railroads.	Number including general officers, Michigan.	General officers.	Number excluding general officers, Michigan.	Number including general officers, entire lines.	Total number of days worked including general officers, Michigan.	Total number of days worked, general officers, Michigan.
1	Ann Arbor.....	861	1	860	1,111	278,525	365
2	Arcadia & Betsey River.....	20	4	16	20	2,858	
3	Au Sable & Northwestern.....	49	—	—	49	15,650	
5	Boyme City & Southeastern.....	35	4	31	35	3,970	
7	Chicago, Detroit & C. G. T. Junction.....	692	15	677	692	99,438	138
8	Chicago & Grand Trunk.....	2,135	15	2,120	2,817	569,506	1,043
9	Chicago, Kalamazoo & Saginaw.....	57	3	54	57		
10	Chicago, Milwaukee & St. Paul.....	—	—	—	19,952		
12	Chicago & Northwestern.....	986	—	986	21,937	435,070	
13	Chicago & West Michigan.....	1,586	8	1,572	1,617	506,298	1,440
17	Cincinnati Northern.....	39	—	39	517	11,560	
18	Cincinnati, Saginaw & Mackinaw.....	489	15	474	489	35,363	62
19	Cleveland, Cincinnati, Chicago & St. Louis.....	134	—	134	10,021	41,942	
20	Detroit, Grand Haven & Milwaukee.....	1,424	15	1,409	1,424	327,732	449
21	Detroit, Grand Rapids & Western.....	1,255	8	1,247	1,255	410,829	1,440
22	Detroit, Toledo & Milwaukee.....	276	—	276	307	74,323	
23	Detroit & Lima Northern.....	373	2	371	596	113,176	730
24	Detroit & Mackinac.....	399	4	395	399	131,793	730
27	Duluth, South Shore & Atlantic.....	1,310	7	1,303	1,478	431,018	2,045
28	Flint & Pere Marquette.....	2,088	7	2,081	2,088	653,544	2,191
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....	31	—	31	31	10,009	
31	Grand Rapids & Indiana System.....	1,527	8	1,519	1,956	494,049	2,213
34	Hancock & Calumet.....	164	7	157	154	46,906	349
36	Terre Haute & Indianapolis.....	58	5	53	—	17,995	1,500
38	Lake Shore & Michigan Southern System.....	1,392	17	1,375	13,602	437,379	5,321
47	Lowell & Hastings.....	19	5	14	19	4,269	
48	Manistee & Grand Rapids.....	81	10	71	81	19,921	862
49	Manistee & Northeastern.....	168	3	165	168	54,421	1,095
51	Manistique.....	78	6	72	78		
52	Manistique & Northwestern.....	150	3	147	150	27,456	922
53	Mason & Oceana.....	36	5	31	36	5,316	
54	Michigan Air Line Railway.....	493	15	478	493	35,838	77
55	Michigan Central System.....	5,981	17	5,964	9,467	2,006,299	6,205
71	Milwaukee, Benton Harbor & Columbus.....	175	7	168	175	44,228	245
72	Mineral Range.....	634	1	633	3,184	195,272	308
74	Munising.....	55	3	52	55	16,112	682
75	Pontiac, Oxford & Northern.....	88	5	83	—	31,473	1,252
76	Saginaw, Tuscola & Huron.....	127	6	121	127	36,226	939
78	South Haven & Eastern.....	46	1	45	46	13,972	365
79	St. Clair Tunnel.....	36	—	36	36	10,481	
81	Toledo, Saginaw & Muskegon.....	498	15	483	498	33,648	79
83	Wabash.....	414	2	412	8,285	129,660	579
ORE AND FOREST ROADS.							
2	Crawford & Manistee River.....	20	2	18	20	4,391	
5	Lake Superior & Ishpeming.....	120	7	113	120	29,726	1,782
6	Lewiston & Southeastern.....	14	—	14	—	2,940	
7	Manistee & Luther.....	57	4	53	—	12,464	
8	Quincy & Torch Lake.....	35	5	30	—	9,365	
Total.....		26,695	267	26,289	105,652	7,871,410	35,409

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31.- EMPLOYEES AND SALARIES.—CONTINUED.

Total number of days worked excluding general officers, Michigan.	Total number of days worked including officers, entire lines.	Total yearly compensation.				Average daily compensation.			
		Including general officers, Michigan.	General officers.	Excluding general officers, Michigan.	Including general officers, entire lines.	Including general officers, Michigan.	General officers, Michigan.	Excluding general officers, Michigan.	Including general officers, entire lines.
278,160	363,001	\$426,608 40	\$1,800 01	\$424,808 40	\$579,734 80	\$1 53	\$4 98	\$1 53	\$1 80
2,858	2,858	4,331 22	-----	4,331 22	4,331 22	1 52	-----	1 52	1 52
-----	15,650	29,848 93	-----	-----	29,848 93	1 91	-----	-----	1 91
3,970	3,970	13,583 24	-----	13,583 24	13,583 24	3 42	-----	3 42	3 42
99,300	99,438	161,219 02	1,110 87	160,108 15	161,219 02	1 62	8 05	1 61	1 62
568,463	878,481	1,063,439 10	8,343 71	1,055,095 39	1,539,216 43	1 87	8 00	1 85	1 75
-----	6,237,664	-----	-----	-----	12,248,682 57	-----	-----	-----	1 96
435,070	7,509,496	862,075 75	-----	862,075 75	14,910,093 52	1 98	-----	1 98	1 99
504,858	516,594	829,709 85	16,274 92	813,434 93	843,412 79	1 64	11 30	1 61	1 63
11,560	143,688	13,610 50	-----	13,610 50	235,273 36	1 18	-----	1 18	1 64
35,301	35,363	55,431 92	496 02	54,935 90	55,431 92	1 57	8 00	1 56	1 57
41,942	3,136,573	89,361 00	-----	89,361 00	6,104,993 97	2 13	-----	2 13	1 95
327,233	327,732	528,266 90	3,991 81	524,275 09	528,266 90	1 61	8 00	1 60	1 61
409,389	410,829	674,432 17	16,274 80	658,157 37	674,432 17	1 64	11 30	1 61	1 64
74,323	86,395	109,628 28	-----	109,628 28	135,140 28	1 47	-----	1 47	1 58
112,445	166,201	178,214 96	4,500 00	173,714 96	262,159 00	-----	13 70	1 55	1 62
131,063	131,793	214,144 76	9,999 98	204,144 78	214,144 76	1 62	12 42	1 81	1 86
428,973	485,061	301,438 94	25,407 50	776,031 44	899,911 65	1 86	10 22	1 71	1 74
651,353	653,544	1,137,324 08	22,399 92	1,114,924 16	1,137,324 08	1 74	-----	-----	-----
10,009	10,009	16,975 17	-----	16,975 17	16,975 17	1 70	-----	1 70	1 70
481,836	620,676	882,065 15	27,573 00	854,512 15	1,130,878 40	1 82	12 46	1 79	1 82
46,557	46,906	91,223 04	3,640 00	87,583 04	91,223 04	1 94	10 43	1 88	1 94
16,495	-----	26,819 15	281 33	26,537 82	-----	1 49	19	1 61	-----
432,058	4,257,426	857,403 76	115,000 00	742,403 76	8,202,249 16	1 96	21 61	1 72	1 93
4,269	-----	7,139 80	-----	7,139 80	-----	1 67	-----	1 67	-----
19,059	19,921	32,508 61	4,973 57	27,535 04	32,508 61	1 63	5 77	1 45	1 63
53,326	54,421	93,012 77	4,800 00	88,212 77	93,012 77	1 71	4 38	1 65	1 71
21,600	-----	37,400 00	2,500 00	34,900 00	37,400 00	1 62	-----	1 62	-----
26,534	27,456	43,156 59	2,533 32	40,623 27	43,156 59	1 57	2 75	1 53	1 57
5,316	5,316	9,246 99	-----	9,246 99	-----	-----	-----	-----	-----
35,761	35,838	54,472 75	617 15	53,855 60	54,472 75	1 52	8 02	1 51	1 52
2,000,094	3,455,455	3,547,793 22	101,381 66	3,446,411 56	5,719,610 46	1 77	-----	1 72	1 66
47,683	48,228	91,710 09	3,040 00	88,670 09	91,710 09	1 90	12 41	1 85	1 90
194,964	980,672	356,480 85	5,084 41	351,396 44	1,610,922 15	1 83	16 51	1 80	1 64
15,440	16,122	31,826 96	3,431 66	28,395 30	31,826 96	1 97	5 08	1 84	1 97
30,221	-----	54,931 21	4,700 00	50,231 21	-----	-----	-----	-----	-----
35,287	36,226	63,572 25	4,900 00	58,672 25	63,572 25	1 75	-----	1 66	1 75
13,607	-----	18,950 90	1,500 00	17,450 90	18,950 90	1 35	-----	1 28	-----
10,481	10,481	20,808 00	-----	20,808 00	20,808 00	1 98	-----	1 98	1 98
38,569	38,648	57,180 72	636 82	56,543 90	57,180 72	1 48	8 06	1 47	1 48
129,061	2,593,205	270,769 56	8,172 50	262,597 05	5,415,391 05	2 09	-----	2 03	2 09
4,391	4,391	4,239 42	-----	4,239 42	4,239 42	96.53	-----	96.53	96.53
27,944	29,726	58,953 78	7,631 49	51,322 29	58,953 78	1 98	4 28	1 84	1 98
2,940	-----	4,270 00	-----	4,270 00	-----	-----	-----	-----	-----
-----	-----	20,519 27	2,000 00	18,519 27	20,519 27	-----	-----	-----	-----
9,365	-----	18,113 78	-----	18,113 78	-----	-----	-----	1 82	-----
7,809,447	33,495,454	\$13,964,143 80	\$414,996 54	\$13,519,387 42	\$63,402,108 14	\$1 73.86	\$9 04	1 70	\$1 77.8

32.—EMPLOYEES AND SALARIES.—CONTINUED.

Number of road.	Railroads.	General officers.			
		Number.	Number of days worked.	Yearly compensation.	Average daily compensation.
1	Ann Arbor.....	1	365	\$1,800 00	\$4 93
2	Arcadia & Betsey River.....	4	-----	-----	-----
5	Boyne City & Southeastern.....	4	-----	-----	-----
7	Chicago, Detroit & C. G. T. Junction.....	15	138	1,110 87	8 05
8	Chicago & Grand Trunk.....	15	1,043	8,343 71	8 00
9	Chicago, Kalamazoo & Saginaw.....	3	-----	4,500 00	-----
10	Chicago, Milwaukee & St. Paul.....	32	11,680	228,658 13	19 58
12	Chicago & Northwestern.....	-----	-----	-----	-----
13	Chicago & West Michigan.....	8	1,440	16,274 92	11 30
17	Cincinnati Northern.....	-----	-----	-----	-----
18	Cincinnati, Saginaw & Mackinaw.....	15	62	496 02	8 00
20	Detroit, Grand Haven & Milwaukee.....	15	499	3,991 81	8 00
21	Detroit, Grand Rapids & Western.....	8	1,440	16,274 80	11 30
22	Detroit, Toledo & Milwaukee.....	-----	-----	-----	-----
23	Detroit & Lima Northern.....	2	730	4,500 00	6 17
24	Detroit & Mackinac.....	4	730	9,999 98	13 70
27	Duluth, South Shore & Atlantic.....	7	2,045	25,407 50	12 42
28	Flint & Pere Marquette.....	7	2,191	22,399 92	10 22
31	Grand Rapids & Indiana System.....	8	2,213	27,573 00	12 46
34	Hancock & Calumet.....	7	349	3,640 00	10 43
36	Terre Haute & Indianapolis.....	5	1,500	281 33	19
38	Lake Shore & Michigan Southern System.....	17	5,321	115,000 00	21 61
47	Lowell & Hastings.....	5	-----	-----	-----
48	Manistee & Grand Rapids.....	10	882	4,973 57	5 77
49	Manistee & Northeastern.....	3	1,095	4,800 00	4 38
51	Manistique.....	6	-----	2,500 00	-----
52	Manistique & Northwestern.....	3	922	2,533 32	2 75
53	Mason & Oceana.....	5	-----	-----	-----
54	Michigan Air Line Railway.....	15	77	617 15	8 02
55	Michigan Central System.....	17	6,205	101,381 66	16 34
72	Mineral Range.....	7	245	3,040 00	12 41
73	Minneapolis, St. Paul & Sault Ste. Marie.....	1	308	5,084 41	16 51
74	Munising.....	3	682	3,431 66	5 03
75	Pontiac, Oxford & Northern.....	5	1,252	4,700 00	3 75
76	Saginaw, Tuscola & Huron.....	6	939	4,900 00	5 22
78	South Haven & Eastern.....	1	365	1,500 00	4 10
79	St. Clair Tunnel.....	-----	-----	-----	-----
81	Toledo, Saginaw & Muskegon.....	15	79	636 82	8 06
83	Wabash.....	2	579	8,172 50	14 11
ORE AND FOREST ROADS.					
2	Crawford & Manistee River.....	1	-----	-----	-----
5	Lake Superior & Ishpeming.....	7	1,782	7,631 49	4 28
6	Lewiston & Southeastern.....	8	-----	-----	-----
7	Manistee & Luther.....	4	-----	1,000 00	-----
8	Quincy & Torch Lake.....	-----	-----	-----	-----
Total.....		296	47,138	\$647,154 57	\$13 51

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32.—EMPLOYEES AND SALARIES.—CONTINUED.

Other officers.				General office clerks.				Train dispatchers.			
Number.	Number of days worked.	Yearly compensation.	Average daily compensation.	Number.	Number of days worked.	Yearly compensation.	Average daily compensation.	Number.	Number of days worked.	Yearly compensation.	Average daily compensation.
5	1,825	\$6,360 00	\$3 48					6	2,190	\$4,920 00	\$2 25
1	313	627 69	2 00	1							
1	183	600 00	3 27	371	1,389	\$2,084 35	\$1 50				
38	12,007	42,037 88	3 33	371	11,183	16,774 45	1 50	9	3,286	11,508 00	3 50
1				4							
52	18,980	193,220 44	10 18	275	86,075	207,512 13	2 41				
1	313	4,999 92	15 97	6	1,878	7,620 00	4 06	5	1,565	6,300 00	4 03
8	1,464	12,160 45	8 31	102	21,433	40,665 21	1 90	5	1,835	5,370 04	2 98
1	360	1,500 00	4 17								
1	182	600 00	3 29	371	673	1,010 41	1 50				
9	2,819	9,187 50	3 26	371	4,712	7,068 65	1 50	6	2,190	7,179 96	3 28
8	1,647	12,400 09	7 53	100	21,356	41,577 65	1 95	6	2,196	6,101 45	2 78
1	372	1,500 00	4 02					3	1,116	2,700 00	2 42
4	1,460	7,200 00	4 98	28	10,320	20,196 00	1 96	3	1,095	2,520 00	2 30
7	2,063	11,026 66	5 29	9	4,173	8,246 95	1 98	3	1,095	1,880 00	1 72
5	1,555	11,280 00	7 25	42	15,262	30,232 33	1 98	6	2,039	7,198 65	3 53
10	3,130	20,575 75	6 57	70	21,910	46,398 29	2 12	7	2,191	7,640 00	3 49
3	1,139	6,048 90	5 31	68	21,322	49,395 49	2 32	6	2,274	6,037 20	2 65
5	292	2,195 00	7 52	7	1,320	2,157 72	1 63	1	182	570 00	3 13
				5	1,500	2,600 65	1 75				
3	939	6,700 00	7 14					6	1,944	5,820 00	2 99
				4	1,228	2,277 90	1 85				
4	1,495	3,320 21	2 22	7	2,448	3,314 33	1 35	1	365	1,020 00	2 79
				2	630	600 00	95	1	300	900 00	3 00
1	182	600 00	3 29	371	772	1,157 99	1 50				
15	5,470	39,860 00	7 29	259	93,618	185,179 20	1 98	27	9,694	35,851 70	3 70
5	292	2,195 00	7 52	7	1,319	2,157 73	1 64	1	183	570 00	3 11
3	924	8,493 41	9 19	28	8,624	20,262 06	2 35				
1	313	825 00	2 63					1	313	900 00	2 87
2	626	2,100 00	3 35	6	1,716	3,097 40	1 81	1	313	900 00	2 88
4	1,252	3,360 00	2 68	6	1,930	3,822 25	1 98	1	330	535 00	1 62
2	730	1,440 00	1 97	1	75	75 00	1 00				
1	182	660 00	3 52	371	848	1,272 09	1 50	2	547	1,329 00	2 42
				15	4,632	12,329 09	2 66				
				1							
				3	894	1,508 92	1 69	1	365	1,026 65	2 81
				4		1,000 00					
5											
207	68,129	\$413,073 90	\$6 54	3,286	343,240	\$717,513 72	\$2 09	105	37,607	\$118,777 65	\$3 15

33.—EMPLOYEES AND SALARIES.—CONTINUED.

No. of road.	Railroads.	Station agents.				Other	
		Number.	Number of days worked.	Yearly compensation.	Average daily compensation.	Number.	Number of days worked.
1	Ann Arbor.....	42	15,330	\$22,620 00	\$1 48	48	16,008
2	Arcadia & Betsey River.....	4		80 00			
5	Boyer City & Southeastern.....	1	311	656 61	2 11		
7	Chicago, Detroit & C. G. T. Junction.....	8	2,920	4,779 96	1 64	68	22,392
8	Chicago & Grand Trunk.....	39	14,285	24,690 00	1 73	38	13,870
9	Chicago, Kalamazoo & Saginaw.....	10				3	
10	Chicago, Milwaukee & St. Paul.....	895	280,135	470,531 76	1 68	2,570	804,410
12	Chicago & Northwestern.....	44	13,772	34,690 00	2 52	107	52,271
13	Chicago & West Michigan.....	100	32,279	47,259 97	1 46	126	44,209
17	Cincinnati Northern.....	8	2,850	2,811 60	98	2	704
18	Cincinnati, Saginaw & Mackinaw.....	10	3,650	5,208 00	1 43	10	3,650
19	Cleveland, Cincinnati, Chicago & St. Louis.....	7	2,191	2,800 00	1 28	10	3,130
20	Detroit, Grand Haven & Milwaukee.....	37	13,505	26,479 92	1 96	139	48,888
21	Detroit, Grand Rapids & Western.....	74	27,108	39,609 04	1 46	228	82,417
22	Detroit, Toledo & Milwaukee.....	25	9,202	10,687 40	1 16	7	2,268
23	Detroit & Lima Northern.....	12	4,380	4,724 04	1 07	13	4,745
24	Detroit & Mackinac.....	14	5,564	7,812 36	1 40	12	5,984
27	Duluth, South Shore & Atlantic.....	41	13,956	27,378 45	1 96	78	24,940
28	Flint & Pere Marquette.....	116	38,308	56,757 83	1 54	225	70,425
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.)	2	729	1,977 09	2 71	3	1,095
31	Grand Rapids & Indiana System.....	81	27,676	43,825 24	1 58	82	35,994
34	Hancock & Calumet.....	6	1,900	3,887 65	2 05	10	2,558
36	Terre Haute & Indianapolis.....	7	2,660	4,500 00	1 69	5	1,600
38	Lake Shore & Michigan Southern System.....	90	28,170	59,928 00	2 13	263	82,319
47	Lowell & Hastings.....	3	939	1,780 00	1 89	1	313
48	Manistee & Grand Rapids.....	3	939	1,146 84	1 22	1	209
49	Manistee & Northeastern.....	14	5,014	7,393 29	1 47	4	1,547
51	Manistique.....	1	300	900 00	3 00	1	300
52	Manistique & Northwestern.....	5	755	1,275 36	1 69	20	3,657
53	Mason & Oceana.....						
54	Michigan Air Line Railway.....	14	5,110	7,870 38	1 54	10	3,116
55	Michigan Central System.....	187	67,231	112,345 28	1 67	317	115,692
72	Mineral Range.....	4	835	2,211 06	2 65	34	9,214
73	Minneapolis, St. Paul & Sault Ste. Marie.....	19	5,852	12,098 62	2 06	15	4,620
74	Munising.....	5	1,560	2,651 28	1 70	2	626
75	Pontiac, Oxford & Northern.....	14	3,999	5,889 72	1 47	5	1,238
76	Saginaw, Tuscola & Huron.....	11	3,442	5,425 32	1 58	5	1,567
78	South Haven & Eastern.....	6	2,290	2,640 00	1 15	4	1,358
79	St. Clair Tunnel.....						
81	Toledo, Saginaw & Muskegon.....	13	4,745	6,480 00	1 37	8	2,620
83	Wabash.....	18	5,728	10,620 39	1 85	42	13,099
ORE AND FOREST ROADS.							
2	Crawford & Manistee River.....						
5	Lake Superior & Ishpeming.....	1	183	150 00	82	4	794
6	Lewiston & Southeastern.....						
7	Manistee & Luther.....						
8	Quincy & Torch Lake.....						
Total.....		1,991	647,653	\$1,083,532 46	\$1 67	4,520	1,484,148

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33.—EMPLOYEES AND SALARIES.—CONTINUED.

station men.		Enginemmen.				Firemen.			
Yearly compensa- tion.	Average daily com- pensation.	Number.	Number of days worked.	Yearly compensa- tion.	Average daily com- pensation.	Number.	Number of days worked.	Yearly compensa- tion.	Average daily com- pensation.
\$18,390 00	\$1 15	39	13,920	\$41,764 92	\$3 00	39	13,920	\$22,570 68	\$1 62
		1	329	714 20	2 18	1	282	433 54	1 54
		3	308	1,774 56	5 76	3	308	1,216 60	3 95
30,683 76	1 37	21	6,573	17,226 72	2 62	25	7,825	12,869 28	1 64
20,250 20	1 46	103	32,239	121,899 56	3 78	104	32,552	70,130 24	2 15
		2				2			
1,230,327 89	1 53	858	268,554	1,000,317 25	3 72	858	268,554	600,625 83	2 24
95,688 49	1 83	57	23,788	84,470 99	3 55	62	25,353	55,007 12	2 17
58,848 75	1 33	73	24,632	79,882 73	3 24	73	25,099	39,966 41	1 59
715 00	1 02								
4,905 00	1 34	6	1,878	5,686 08	3 03	6	1,878	3,717 82	1 98
3,900 00	1 25	15	4,695	19,342 00	4 12	15	4,695	11,128 50	2 37
75,223 56	1 54	37	11,581	41,699 78	3 60	40	12,520	24,723 36	1 97
110,847 72	1 34	51	17,165	53,803 95	3 13	48	17,275	27,009 22	1 56
2,572 56	1 13	17	3,288	9,624 60	2 93	16	3,240	5,517 60	1 70
5,466 00	1 15	21	6,004	17,412 00	2 90	26	5,862	9,965 00	1 69
7,803 17	1 31	21	6,853	20,565 04	3 00	21	6,902	10,743 53	1 55
39,621 05	1 59	50	17,500	63,434 92	3 63	50	17,325	38,289 34	2 21
103,529 01	1 47	104	32,552	106,863 31	3 28	107	33,491	60,051 67	1 79
960 00	88								
46,140 59	1 28	78	19,793	81,123 06	4 10	84	19,802	43,311 76	2 19
2,712 71	1 06	11	3,581	11,133 45	3 11	11	3,607	7,377 41	2 05
2,475 00	1 55	3	900	2,915 59	3 24	3	900	1,457 80	1 62
116,172 00	1 41	26	8,138	32,633 38	4 01	25	7,825	17,606 25	2 25
480 00	1 53	1	313	1,060 00	3 45	1	313	540 00	1 73
157 50	75	3	1,141	2,307 25	2 02	2	798	1,418 95	1 78
1,912 74	1 24	8	2,515	8,388 27	3 34	8	2,050	3,938 92	1 92
450 00	1 50	4	1,200	3,600 00	3 00	4	1,200	2,100 00	1 75
6,059 07	1 66	4	890	2,322 36	2 61	3	708	1,225 92	1 73
		4	808	2,200 00	2 50	4	808	1,460 00	1 80
2,940 27	94	4	1,252	4,896 12	3 91	4	1,252	3,032 52	2 42
142,835 29	1 23	317	111,636	361,998 30	3 24	321	116,238	199,144 85	1 71
14,308 07	1 55	4	1,503	5,061 88	3 36	5	1,485	3,168 90	2 13
7,368 79	1 59	27	8,316	51,650 39	6 21				
708 72	1 13	3	733	2,712 94	3 70	3	747	1,494 68	2 04
1,430 00	1 16	4	1,219	4,231 07	3 47	4	1,228	2,286 79	1 86
1,616 39	1 03	5	1,505	4,604 93	3 06	7	1,924	3,371 27	1 75
1,358 15	1 00	4	1,012	2,110 20	2 08	4	1,012	1,183 95	1 17
		4	1,066	4,655 00	4 36	4	939	3,170 00	3 37
2,741 00	94	4	1,252	4,719 00	3 77	5	1,565	3,058 56	1 96
21,398 75	1 63	22	6,745	26,737 43	3 97	22	6,714	15,427 58	2 30
		1	227	565 00	2 50	1	238	239 85	1 00
1,030 76	1 30	6	1,154	3,827 00	3 32	6	1,117	2,362 80	2 11
		1	280	700 00	2 50	1	280	420 00	1 50
		2	630	1,764 00	2 80	2	559	844 09	1 51
		3	930	2,356 85	2 53	3	932	1,792 27	1 92
\$2,184,027 96	147	2,032	650,789	\$2,316,766 08	\$3 56	2,033	651,317	\$1,315,430 76	\$2 04

34.—EMPLOYEES AND SALARIES.—CONTINUED.

Number of road.	Railroads.	Conductors.				Other
		Number.	Number of days worked.	Yearly compensation.	Average daily compensation.	
1	Ann Arbor.....	32	9,984	\$24,764 88	\$2 48	68
2	Arcadia & Betsey River.....	1	294 8	466 15	1 58	1
5	Boyne City & Southeastern.....	3	288	1,183 68	4 11	2
7	Chicago, Detroit & C. G. T. Junction.....	10	3,650	9,217 70	2 53	18
8	Chicago & Grand Trunk.....	67	24,455	70,292 24	2 89	169
9	Chicago, Kalamazoo & Saginaw.....	2				3
10	Chicago, Milwaukee & St. Paul.....	708	221,604	789,211 28	3 56	1,087
12	Chicago & Northwestern.....	33	12,833	40,425 50	3 15	70
13	Chicago & West Michigan.....	45	15,573	43,130 18	2 77	89
18	Cincinnati, Saginaw & Mackinaw.....	2	730	2,150 96	2 94	4
19	Cleveland, Cincinnati, Chicago & St. Louis.....	10	3,130	10,172 50	3 25	21
20	Detroit, Grand Haven & Milwaukee.....	33	12,045	32,378 55	2 69	70
21	Detroit, Grand Rapids & Western.....	36	13,457	36,890 17	2 74	52
22	Detroit, Toledo & Milwaukee.....	10	3,000	7,534 20	2 51	27
23	Detroit & Lima Northern.....	20	7,309	14,965 00	2 06	49
24	Detroit & Mackinac.....	15	5,659	12,288 96	2 17	28
27	Duluth, South Shore & Atlantic.....	31	10,476	31,813 15	3 04	84
28	Flint & Pere Marquette.....	67	27,231	72,071 09	2 65	169
31	Grand Rapids & Indiana System.....	50	17,079	52,413 04	3 07	112
34	Hancock & Calumet.....	9	2,884	7,483 01	2 59	18
36	Terre Haute & Indianapolis.....	2	580	1,369 10	2 36	4
38	Lake Shore & Mich. Southern System.....	41	12,833	37,087 37	2 89	93
47	Lowell & Hastings.....	1	313	660 00	2 11	1
48	Manistee & Grand Rapids.....	2	649	1,330 10	2 06	6
49	Manistee & Northeastern.....	8	2,284	6,233 02	2 73	12
51	Manistique.....	4	1,200	2,800 00	2 33	8
52	Manistique & Northwestern.....	3	776	1,505 53	1 94	3
53	Mason & Oceana.....	1	300	600 00	2 00	8
54	Michigan Air Line Railway.....	3	1,095	2,710 25	2 48	5
55	Michigan Central System.....	210	73,738	209,840 25	2 85	450
72	Mineral Range.....	3	932	2,537 59	2 72	6
73	Minneapolis, St. Paul & Sault Ste. Marie.....	15	4,820	17,433 94	3 77	49
74	Munising.....	2	712	2,095 12	2 94	5
75	Pontiac, Oxford & Northern.....	4	1,191	2,848 00	2 39	6
76	Saginaw, Tuscola & Huron.....	4	1,462	3,877 49	2 65	13
78	South Haven & Eastern.....	3	704	1,215 00	1 72	2
79	St. Clair Tunnel.....	3	464	1,160 00	2 50	5
81	Toledo, Saginaw & Muskegon.....	3	1,095	2,959 10	2 70	5
83	Wabash.....	14	4,617	16,605 59	3 60	28
ORE AND FOREST ROADS.						
2	Crawford & Manistee River.....	1	225	225 00	1 00	-----
5	Lake Superior & Ishpeming.....	3	548	1,661 67	3 03	6
6	Lewiston & Southeastern.....	1	286			-----
7	Manistee & Luther.....	2	520	868 40	1 67	4
8	Quincy & Torch Lake.....	2	688	1,323 47	1 92	4
Total.....		1,539	508,496	\$1,577,795 23	\$2 13	2,864

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34.—EMPLOYEES AND SALARIES.—CONTINUED.

trainmen.			Machinists.				Carpenters.			
Number of days worked.	Yearly compensation.	Average daily compensation.	Number.	Number of days worked.	Yearly compensation.	Average daily compensation.	Number.	Number of days worked.	Yearly compensation.	Average daily compensation.
21,420	\$34,266 72	\$1 60	30	9,552	\$19,335 60	\$2 02	48	15,180	\$24,564 48	\$1 62
236 7	350 84	1 48	1	47	109 00	2 32				
306	782 55	2 50	1	300	825 00	2 75	1	300	486 00	1 62
6,570	11,363 24	1 73					5	1,560	3,354 00	2 15
61,685	117,513 57	1 91	247	75,412	125,885 27	1 67	106	27,844	53,501 43	1 89
			1				2			
340,231	703,926 50	2 07	290	90,770	228,178 21	2 49	563	176,219	329,042 35	1 87
25,979	60,100 28	2 31	25	8,133	21,088 35	2 50	44	18,467	42,071 42	2 28
31,286	56,967 91	1 82	25	8,685	21,275 98	2 45	36	11,183	21,055 11	1 88
1,460	2,740 80	1 87					3	964	2,067 00	2 16
6,573	14,132 00	2 15	1	313	680 00	2 17	1	313	432 00	1 38
25,560	41,886 18	1 63	7	2,191	4,457 40	2 03	16	4,740	10,032 81	2 12
16,434	27,774 65	1 69	37	11,822	24,651 36	2 08	32	9,858	19,113 95	1 94
7,620	11,649 80	1 53	15	3,336	6,654 00	2 00	12	2,724	5,398 20	1 98
12,038	18,659 00	1 55	10	2,180	4,904 00	2 25	3	912	1,733 00	1 90
11,613	17,130 95	1 48	9	2,347	5,591 72	2 38	14	1,723	3,508 04	2 04
28,624	51,968 81	1 82	27	7,743	16,377 88	2 12	58	17,156	37,209 38	2 17
52,897	89,291 11	1 69	75	23,475	53,678 68	2 29	41	12,833	24,965 45	1 95
35,292	71,296 33	2 02	24	7,029	19,090 30	2 70	70	18,695	37,775 13	2 02
5,861	12,204 75	2 06	1	353	618 95	1 75				
1,135	1,620 00	1 43					1	420	839 00	2 00
29,109	51,322 93	1 77	20	6,260	11,268 00	1 80	110	34,430	65,417 00	1 90
313	420 00	1 34					2	753	1,121 23	1 49
1,716	2,971 90	1 73	1	27	61 36	2 27	4	1,367	2,704 14	1 98
4,138	8,345 03	2 02	8	2,369	6,021 52	2 54				
2,400	3,600 00	1 50	2	600	1,800 00	3 00	4	1,200	2,100 00	1 75
689	1,156 86	1 68	1	315	961 62	3 05				
1,000	1,546 99	1 54	2	400	800 00	2 00				
1,825	3,205 08	1 76					1	312	421 20	1 35
157,803	296,499 45	1 81	146	38,651	80,858 05	2 09	276	73,644	139,953 35	1 90
2,180	4,346 69	1 99	4	1,183	3,045 42	2 57	15	4,932	10,830 95	2 20
15,092	26,880 06	1 78	6	1,848	4,380 92	2 37	1	308	655 28	2 13
1,447	2,884 24	2 00	1	313	715 16	2 25	1	313	926 28	2 96
2,417	4,045 31	1 67	1	480	1,173 09	2 44	3	1,441	2,386 88	1 66
2,478	3,698 10	1 50	3	816	1,732 87	2 12	4	1,075	2,002 33	1 86
507	685 10	1 35					1	290	407 50	1 75
1,655	3,062 00	1 85								
1,825	3,496 25	1 92					5	1,620	3,483 00	2 15
8,889	19,405 84	2 18	22	7,074	14,147 27	2 00	15	4,554	10,452 10	2 30
1,019	2,188 15	2 15	3	810	1,943 36	2 40	4	1,246	2,508 06	2 01
900	1,368 00	1 52					9	620	1,202 80	1 94
1,378	2,646 93	1 92					5	1,546	3,091 12	2 00
931,589	\$1,779,360 68	\$1 91	1,046	314,839	\$680,245 34	\$2 16	1,516	450,732	\$866,812 89	\$1 92

35.—EMPLOYEES AND SALARIES.—CONTINUED.

Number of road.	Railroads.	Shopmen.				Section	
		Number.	Number of days worked.	Yearly compensation.	Average daily compensation.	Number.	Number of days worked.
1	Ann Arbor.....	90	28,848	\$46,052 28	\$1 60	46	14,398
2	Arcadia & Betsey River.....	1	138	236 24	1 75	1	256
5	Boyme City and Southeastern.....	4	300	1,650 00	1 37	3	302
7	Chicago, Detroit & C. G. T. Junction.....	—	—	—	—	12	3,744
8	Chicago & Grand Trunk.....	186	53,133	76,241 44	1 43	45	14,926
9	Chicago, Kalamazoo & Saginaw.....	—	—	—	—	7	—
10	Chicago, Milwaukee & St. Paul.....	1,671	523,023	930,725 89	1 78	948	296,724
12	Chicago & Northwestern.....	206	74,181	124,220 27	1 67	85	27,544
13	Chicago & West Michigan.....	69	20,289	36,662 90	1 81	1 19	45,680
17	Cincinnati Northern.....	—	—	—	—	7	2,520
18	Cincinnati, Saginaw & Mackinaw.....	—	—	—	—	8	2,544
19	Cleveland, Cincinnati, Chicago & St. Louis.....	—	—	—	—	6	1,878
20	Detroit, Grand Haven & Milwaukee.....	2	626	1,287 00	2 06	38	12,309
21	Detroit, Grand Rapids & Western.....	34	10,675	21,316 83	2 00	73	27,523
22	Detroit, Toledo & Milwaukee.....	37	8,840	13,151 40	1 58	21	7,812
23	Detroit & Lima Northern.....	88	23,434	32,807 00	1 40	8	2,920
24	Detroit & Mackinac.....	58	16,034	23,558 17	1 47	36	13,557
27	Duluth, South Shore & Atlantic.....	198	65,041	112,396 07	1 73	96	34,969
28	Flint & Pere Marquette.....	199	62,287	97,074 39	1 56	134	41,942
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.).....	—	—	—	—	2	821
31	Grand Rapids & Indiana System.....	162	38,612	70,030 00	1 81	89	28,016
34	Hancock & Calumet.....	13	4,241	7,282 94	1 72	8	2,816
36	Terre Haute & Indianapolis.....	6	1,800	3,125 00	1 74	5	1,500
38	Lake Shore & Michigan Southern System.....	109	34,117	60,387 09	1 77	95	29,735
47	Lowell & Hastings.....	—	—	—	—	1	313
48	Manistee & Grand Rapids.....	5	1,483	1,851 54	1 25	5	1,537
49	Manistee & Northeastern.....	16	4,956	7,856 06	1 59	11	4,002
51	Manistique.....	5	1,500	2,400 00	1 60	6	1,800
52	Manistique & Northwestern.....	6	2,025	3,333 29	1 65	7	1,526
53	Mason & Oceana.....	2	400	500 00	1 25	2	400
54	Michigan Air Line Railway.....	—	—	—	—	14	4,368
55	Michigan Central System.....	270	72,400	138,427 40	1 77	266	95,760
72	Mineral Range.....	23	7,355	13,394 61	1 82	6	1,825
73	Minneapolis, St. Paul & Sault Ste. Marie.....	9	2,772	6,352 74	2 29	28	8,624
74	Munising.....	6	1,688	2,829 30	1 67	5	1,560
75	Pontiac, Oxford & Northern.....	11	3,965	5,600 36	1 41	16	5,016
76	Saginaw, Tuscola & Huron.....	11	3,283	6,056 17	1 84	11	3,695
78	South Haven & Eastern.....	—	—	—	—	6	1,878
79	St. Clair Tunnel.....	—	—	—	—	1	150
81	Toledo, Saginaw & Muskegon.....	—	—	—	—	12	3,888
83	Wabash.....	59	18,342	32,015 26	1 75	17	5,211
ORE AND FOREST ROADS.							
2	Crawford & Manistee River.....	—	—	—	—	2	413
5	Lake Superior & Ishpeming.....	24	6,258	11,379 01	1 82	5	1,855
6	Lewiston & Southeastern.....	—	—	—	—	1	280
7	Manistee & Luther.....	7	2,004	3,306 60	1 65	2	603
8	Quincy & Torch Lake.....	—	—	—	—	1	312
Total.....		3,587	1,093,550	\$1,893,507 25	\$1 73	2,317	759,452

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35.—EMPLOYEES AND SALARIES.—CONTINUED.

foremen.		Other trackmen.				Switchmen.			
Yearly compensation.	Average daily compensation.	Number.	Number of days worked.	Yearly compensation.	Average daily compensation.	Number.	Number of days worked.	Yearly compensation.	Average daily compensation.
\$22,218 36	\$1 54	132	44,760	\$50,764 56	\$1 13	24	8,064	\$13,183 80	\$1 63
433 52	1 69	4	1,273	1,527 30	1 20				
1,132 50	3 75	5	260	1,480 00	1 10				
5,916 30	1 58	27	8,424	9,687 60	1 15				
22,547 97	1 51	157	49,141	56,020 74	1 14				
		11				5			
513,289 15	1 73	3,471	1,066,423	1,325,008 34	1 22				
47,936 07	1 74	117	98,282	130,138 25	1 32	44	20,971	51,182 17	2 44
61,375 59	1 34	264	81,893	94,376 12	1 15				
3,370 00	1 34	17	3,898	4,293 80	1 10				
4,213 50	1 65	24	7,632	8,824 50	1 16				
3,240 00	1 73	14	4,882	5,040 00	1 15	3	939	1,860 00	1 98
19,190 40	1 56	182	38,772	45,409 59	1 17				
37,805 84	1 35	158	51,722	58,023 75	1 12				
10,080 00	1 29	48	9,924	10,918 80	1 10				
3,840 00	1 31	55	18,480	20,328 00	1 10				
18,432 11	1 36	45	22,114	24,436 69	1 10				
59,097 10	1 69	328	102,633	126,950 20	1 24	40	13,718	32,135 15	2 34
71,560 60	1 71	400	125,200	138,731 65	1 11	147	46,011	71,308 80	1 55
1,527 34	1 86	12	3,741	4,646 90	1 24	9	2,686	6,861 34	2 55
43,708 94	1 56	157	68,615	79,129 83	1 15	66	14,630	31,860 97	2 17
4,835 09	1 72	35	10,727	13,411 64	1 25	9	2,815	6,446 71	2 29
2,400 00	1 60	5	1,500	1,900 00	1 27	3	900	1,717 70	1 91
49,657 45	1 67	231	72,300	80,256 33	1 11	49	15,876	33,900 00	2 14
540 00	1 73								
2,596 64	1 69	29	6,119	7,027 36	1 15				
5,324 16	1 33	35	10,781	12,389 08	1 15				
3,150 00	1 75	24	7,200	7,920 00	1 10	4	1,200	1,500 00	1 25
2,647 10	1 73	84	13,087	17,361 59	1 33				
640 00	1 60	8	1,200	1,500 00	1 25				
6,524 70	1 49	28	8,736	9,609 60	1 10				
145,350 00	1 52	949	292,323	321,555 30	1 10	302	105,756	241,817 90	2 29
3,292 40	1 80	27	8,530	10,748 66	1 26	5	1,369	3,005 16	2 20
15,000 00	1 73	158	48,664	56,999 35	1 17	24	7,392	20,143 39	2 72
2,762 47	1 77	15	4,851	6,455 36	1 33				
7,674 02	1 58	3	4,215	4,646 91	1 10				
5,595 37	1 51	31	9,321	11,145 84	1 20				
2,580 00	1 37	12	3,756	3,756 00	1 00				
206 00	1 37								
5,994 00	1 54	36	11,664	13,122 00	1 13				
9,246 25	1 77	69	21,472	25,135 56	1 17				
483 02	1 16	3	711	581 52	81				
3,050 71	1 64	28	6,742	8,885 11	1 32	7	1,563	4,205 22	2 69
455 00	1 75	3	840	1,050 00	1 25				
880 38	1 46	5	1,498	1,872 50	1 25				
780 00	2 50	9	2,593	3,920 78	1 52				
\$223,179 95	\$1 60	7,454	2,376,432	\$2,816,937 09	\$1 19	741	243,890	\$521,128 31	\$2 13

36.—EMPLOYEES AND SALARIES.—CONTINUED.

No. of road.	Railroads.	Flagmen and watchmen.				Tele-
		Number.	Number of days worked.	Yearly compensation.	Average daily compensation.	Number.
5	Boyne City & Southeastern	2	365	\$938 05	\$1 28	—
7	Chicago, Detroit & C. G. T. Junction	55	17,100	31,550 52	1 54	11
8	Chicago & Grand Trunk	60	20,499	33,891 16	1 66	48
9	Chicago, Kalamazoo & Saginaw	1	—	—	—	—
10	Chicago, Milwaukee & St. Paul	1,011	316,443	629,270 69	1 99	767
12	Chicago & Northwestern	31	10,329	15,724 33	1 52	21
13	Chicago & West Michigan	91	30,271	46,847 88	1 55	32
17	Cincinnati Northern	—	—	—	—	2
18	Cincinnati, Saginaw & Mackinaw	21	7,332	10,045 23	1 27	1
19	Cleveland, Cincinnati, Chicago & St. Louis	4	1,252	1,074 00	86	3
20	Detroit, Grand Haven & Milwaukee	132	43,440	56,983 80	1 31	28
21	Detroit, Grand Rapids & Western	59	21,789	34,650 98	1 59	26
22	Detroit, Toledo & Milwaukee	3	876	843 84	96	10
23	Detroit & Lima Northern	17	6,205	6,120 00	98	14
24	Detroit & Mackinac	1	365	499 80	1 37	9
27	Duluth, South Shore & Atlantic	25	8,664	11,030 13	1 27	33
28	Flint & Pere Marquette	—	—	—	—	23
29	Gogebic & Montreal Riv. (Op'd by Wis. Cent.)	1	365	250 16	69	2
31	Grand Rapids & Indiana System	49	15,644	16,567 20	1 06	55
34	Hancock & Calumet	2	758	1,209 74	1 60	8
36	Terre Haute & Indianapolis	—	—	—	—	2
38	Lake Shore & Michigan Southern System	49	15,876	18,012 00	1 13	49
47	Lowell & Hastings	1	200	200 00	1 00	—
48	Manistee & Grand Rapids	1	370	542 34	1 47	—
49	Manistee & Northeastern	4	1,532	1,895 57	1 24	7
50	Manistique	—	—	—	—	—
52	Manistique & Northwestern	2	675	777 80	1 15	—
54	Michigan Air Line Railway	2	730	688 80	94	6
55	Michigan Central System	186	66,673	74,607 65	1 12	156
72	Mineral Range	5	1,669	2,283 04	1 37	6
73	Minneapolis, St. Paul & Sault Ste. Marie	—	—	—	—	14
74	Munising	—	—	—	—	—
75	Pontiac, Oxford & Northern	—	—	—	—	—
76	Saginaw, Tuscola & Huron	—	—	—	—	—
78	South Haven & Eastern	—	—	—	—	1
81	Toledo, Saginaw & Muskegon	6	2,190	2,280 00	1 04	3
83	Wabash	22	7,528	15,456 54	2 05	13
ORE AND FOREST ROADS.						
2	Crawford & Manistee River	1	224	173 31	77	—
5	Lake Superior & Ishpeming	4	999	1,043 35	1 05	3
7	Manistee & Luther	2	630	787 50	1 25	—
8	Quincy & Torch Lake	—	—	—	—	—
Total		1,850	600,963	\$1,016,444 41	\$1 69	1,348

36.—EMPLOYEES AND SALARIES.—CONCLUDED.

graph operators.			Employees account floating equipment.				All other employees and laborers.			
Number of days worked.	Yearly compensation.	Average daily compensation.	Number.	Number of days worked.	Yearly compensation.	Average daily compensation.	Number.	Number of days worked.	Yearly compensation.	Average daily compensation.
4,380	\$5,940 00	\$1 35					2	310	\$900 00	\$1 45
17,920	26,064 00	1 45					41	11,317	12,978 60	1 15
							333	103,507	165,867 24	1 60
240,071	501,847 93	2 09					3,896	1,219,448	2,597,646 93	2 13
6,886	12,546 39	1 82					28	12,520	27,916 22	2 23
11,032	14,269 36	1 29					321	98,015	133,300 34	1 37
712	415 00	58					2	516	505 10	98
365	480 00	1 32					3	939	1,334 16	1 42
939	1,380 00	1 47					24	7,512	14,180 00	1 59
10,320	13,263 00	1 29					262	81,025	107,823 65	1 33
9,577	12,075 33	1 26	34	8,540	\$8,556 33	\$1 00	191	58,828	86,449 06	1 47
3,334	3,252 00	98					24	7,871	7,564 08	96
5,110	2,875 92	56								
2,222	3,526 42	1 51					93	22,775	27,094 21	1 19
10,424	16,925 32	1 62					111	36,948	62,703 51	1 70
7,199	10,731 40	1 49					167	62,271	84,695 23	1 62
572	752 34	1 32								
17,613	22,733 18	1 29					283	92,581	134,024 97	1 45
644	1,134 02	1 76					8	2,020	2,922 25	1 45
600	1,098 50	1 83					2	500	600 00	1 20
15,876	28,140 00	1 77					116	36,308	67,895 96	1 87
							4	1,252	1,439 80	1 15
							7	3,090	2,724 13	1 30
2,205	2,504 15	1 14					14	4,258	5,652 30	1 33
							4	1,200	1,680 00	1 40
							7	801	1,396 77	1 74
2,190	2,016 00	92					10	3,126	5,674 44	1 82
56,787	84,931 55	1 48	80	28,884	50,258 95	1 74	1,230	418,101	595,997 09	1 43
1,169	2,056 89	1 76					8	2,008	3,466 04	1 73
4,312	8,555 66	1 98					237	72,996	95,121 85	1 30
							2	264	434 75	1 64
				505	667 07	1 34	3	652	1,244 64	1 91
							5	1,207	1,828 92	1 52
360	600 00	1 66					16	5,300	6,626 00	1 25
1,095	1,020 00	93					7	2,224	3,161 88	1 42
3,991	8,108 16	2 03					34	10,485	25,511 24	2 43
							9	2,353	1,972 72	83 1/2
							5	1,692	3,384 35	2 00
705	1,162 17	1 65					18	4,500	5,624 00	1 25
							1	405	1,168 05	2 88
			2	581	1,034 31	1 78				
438,610	\$790,404 69	\$1 81	116	38,510	\$60,516 66	\$1 57	7,528	2,390,125	\$4,299,781 48	\$1 79

COMPARATIVE TABLES.—RAILROAD MILEAGE.

	1893.	1894.	1895.	1896.	1897.	1898.
Road owned by companies doing business in Michigan.....	20,059.40	20,004.72	22,501.45	22,703.52	23,200.26	23,530.37
Road operated by companies doing business in Michigan.....	22,993.15	23,010.81	24,847.52	25,045.14	25,305.01	25,441.45
Road owned in Michigan.....	7,511.83	7,512.50	7,609.87	7,759.08	7,816.55	7,835.51
Road operated in Michigan.....	7,572.34	7,585.08	7,610.43	7,709.72	7,972.83	7,982.79
Length of main track in Michigan.....	7,511.83	7,512.50	7,609.87	7,759.08	7,816.55	7,835.51
Length of second and side track in Michigan.....	2,177.64	2,217.65	2,277.28	2,198.41	2,198.41	2,411.94
Total estimated as single track.....	9,689.47	9,730.15	9,887.15	9,958.15	10,018.05	10,211.78
Increase over previous year.....	74.76	67	97.37	150.47	57.47	53.99

CAPITAL STOCK.

	1893.	1894.	1895.	1896.	1897.	1898.
Total capital stock paid in.....	\$431,973,001.97	\$431,380,117.19	\$436,105,233.19	\$436,910,564.76	\$436,076,478.46	\$437,934,505.50
Amount held in Michigan.....	12,163,329.59	11,358,388.31	10,885,374.97	11,148,289.37	10,811,739.97	10,675,034.00
Total number of stockholders.....	21,273	23,235	23,851	24,509	24,549	23,893
Number in Michigan.....	1,076	1,144	1,161	1,502	1,561	1,638

COST OF PROPERTY, COMPARED WITH STOCK AND DEBT.

	1893.	1894.	1895.	1896.	1897.	1898.
Total capital stock paid in.....	\$431,973,001.97	\$431,380,117.19	\$436,105,233.19	\$436,910,564.76	\$436,076,478.46	\$437,934,505.50
Total funded debt.....	606,113,359.62	609,895,267.35	611,150,396.45	602,025,687.21	617,870,194.41	624,492,776.67
Total unfunded debt.....	40,810,372.11	42,269,390.31	54,711,770.62	54,334,169.61	46,991,514.18	47,989,359.38
Total debt.....	646,923,727.73	652,164,657.66	665,862,167.07	656,360,856.82	664,861,708.59	672,482,136.05
Total stock and debt.....	1,078,896,729.70	1,083,544,774.85	1,102,057,400.26	1,093,271,421.58	1,098,038,194.17	1,094,631,937.14
Total cost of road and equipment.....	1,019,700,329.66	1,024,767,588.08	1,031,493,103.30	1,026,961,967.64	1,013,504,085.31	1,025,741,348.54
Proportion of cost for Michigan.....	236,992,936.64	300,620,020.45	301,093,148.44	308,185,907.94	292,673,795.29	294,290,145.02
Capital stock paid in per mile of road.....	30,821.45	31,048.48	31,265.34	31,815.67	31,925.45	31,811.48
Debt per mile of road.....	51,401.98	51,898.48	52,793.44	52,427.77	52,558.49	52,893.64
Stock and debt per mile of road.....	43,881.68	43,946.96	44,258.78	44,243.44	44,483.94	44,905.12
Cost per mile of road.....						
		48,787.49	48,841.18	45,233.60	43,685.02	40,317.76

TRAFFIC AND REVENUE.

	1893.	1894.	1895.	1896.	1897.	1898.
Passengers carried.....	53,916,571	45,712,632	47,243,450	44,792,385	43,401,571	46,576,250
Passenger mileage.....	46,847,816	43,366,739	44,556,837	45,526,896	44,890,905	47,115,236
Passenger revenue.....	851,023,624	841,319,315	843,079,700	843,068,537	842,615,511	845,840,898
Tons of freight hauled.....	70,649,152	74,148,422	83,618,852	82,768,489	88,987,235	102,365,175
Freight mileage.....	72,645,193	63,861,227	67,236,241	63,474,414	61,453,120	67,525,054
Freight revenue.....	893,009,892	890,116,339	899,163,627	899,932,938	8104,312,822	\$114,203,968
Gross earnings.....	146,626,639	134,432,232	144,464,148	144,634,017	146,923,333	163,300,497
Operating expenses.....	105,054,079	95,601,237	99,622,175	101,603,797	101,677,465	113,219,452
Net earnings.....	41,572,559	38,830,995	44,841,972	43,030,220	45,250,867	50,081,035
Total income.....	147,387,961	135,106,745	145,649,180	145,604,562	149,812,068	163,901,551
Total expenditures.....	138,069,505	129,703,435	133,046,107	145,373,841	145,173,940	113,324,770
Surplus for the year.....	9,318,356	6,406,309	12,603,073	231,221	4,638,127	50,577,060

PASSENGER MILEAGE.

	1893.	1894.	1895.	1896.	1897.	1898.
Number of passengers carried.....	53,916,571	45,712,632	47,243,450	44,792,385	43,401,571	46,576,250
Average journey (miles).....	43.25	32.85	34.06	34.88	34.93	27.927
Average rate per mile.....	\$0.0187	\$0.0220	\$0.0213	\$0.0213	\$0.0209	\$0.0235
Total passenger mileage.....	2,331,976,030	1,501,614,565	1,608,584,611	1,562,853,996	1,543,549,834	1,772,333,693

FREIGHT MILEAGE.

	1893.	1894.	1895.	1896.	1897.	1898.
Number of tons of freight hauled.....	70,649,152	74,148,422	83,618,852	82,768,489	88,987,235	86,348,182
Average haul (miles).....	153.22	146.82	149.15	153.46	152.20	152.94
Average rate per ton per mile.....	\$0.0076	\$0.0076	\$0.0079	\$0.0078	\$0.0077	\$0.0073
Total freight mileage.....	12,203,926,990	10,896,537,752	12,472,394,620	12,740,422,706	13,544,041,539	15,566,208,020

TRAIN MILEAGE.

	1893.	1894.	1895.	1896.	1897.	1898.
Passenger trains.....	46,847,816	43,366,739	44,556,337	45,536,886	44,860,905	47,115,236
Freight trains.....	72,645,198	63,381,227	67,285,241	63,474,414	65,291,823	67,525,054
Total, all trains.....	119,493,009	107,227,966	111,842,078	113,067,984	110,152,728	116,083,513

COMPARATIVE TABLE OF EXPENSES TO EARNINGS.

	1893.	1894.	1895.	1896.	1897.	1898.
Earnings per mile of road.....	87,336 59	86,753 89	86,472 89	86,413 80	85,777 46	86,437 31
Operating expenses per mile of road.....	6,004 81	5,636 63	5,354 50	6,402 23	4,008 57	4,410 89
Operating expenses, per cent of earnings.....	6 81	6 39	6 10	7 40	4 68	5 09
Earnings per train mile.....	1 23	1 26	1 30	1 28	1 41	1 41
Operating expenses, per train mile.....	1 15	1 20	1 18	1 26	92	98

ROLLING STOCK.

	1893.	1894.	1895.	1896.	1897.	1898.
Total number of locomotives.....	4,781	4,827	4,681	4,647	4,610	4,579
Total number of cars.....	163,407	155,625	153,368	154,068	155,701	162,305

EMPLOYEES AND STATIONS.

	1893.	1894.	1895.	1896.	1897.	1898.
Total number of employees.....	100,983	89,536	88,825	100,536	99,153	83,359
Total number of stations.....	4,642	4,629	4,663	4,769	4,905	4,178

COMMISSIONER OF RAILROADS.

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PERMANENT WAY.

	1893.	1894.	1895.	1896.	1897.	1898.
Trestles replaced with earth work.....	15,407	19,438	20,587	10,669	10,046	15,304
Culverts replaced.....	619	445	403	562	517	564
Number of new ties put in track.....	5,781,277	4,784,269	4,784,269	8,358,992	7,848,089	7,682,658

CROSSINGS, NUMBER.

	1893.	1894.	1895.	1896.	1897.	1898.
Railroad crossings at grade.....	350	356	356	340	399	402
Railroad crossings over or under.....	44	44	46	55	71	-----
Railroad crossings, total.....	394	400	402	395	470	402
Highway crossings at grade.....	7,449	7,560	7,669	7,870	8,235	8,059
Highway crossings over or under.....	215	213	211	242	227	221
Highway crossings, total.....	7,664	7,773	7,880	8,112	8,462	8,279
Highway crossings with gates or signals....	514	514	530	602	616	650

COMPARATIVE TABLE OF EARNINGS.—MICHIGAN.

Years.	Gross earnings.	Miles of road.	Earnings per mile.
1888.....	\$30,161,504 31	6,411.66	\$4,704 16
1889.....	34,001,787 15	6,769.55	5,030 18
1890.....	56,165,108 96	6,957.27	5,198 17
1891.....	36,292,598 86	7,274.94	5,062 81
1892.....	38,683,202 94	7,447.37	5,194 21
1893.....	36,432,718 97	7,511.83	4,850 08
1894.....	29,522,975 71	7,512.50	3,929 84
1895.....	29,211,014 48	7,608.61	3,839 20
1896.....	29,577,535 27	7,769.08	3,811 97
1897.....	29,135,247 93	7,816.55	3,727 38
1898.....	32,122,779 35	7,825.51	4,104 88

ACCIDENTS.

Years.	Killed.				Injured.				Total casualties.
	Passengers.	Employees.	Others.	Total.	Passengers.	Employees.	Others.	Total.	
1888.....	7	63	90	160	21	256	88	365	532
1889.....	8	60	110	178	26	232	86	394	572
1890.....	7	75	150	232	53	491	93	637	869
1891.....	5	52	118	175	47	356	112	515	689
1892.....	6	73	88	167	45	463	111	619	786
1893.....	46	58	96	200	127	362	77	566	766
1894.....	2	37	90	129	17	169	78	264	393
1895.....	4	32	100	136	13	215	72	300	436
1896.....	2	35	87	124	14	255	82	351	475
1897.....	3	31	106	140	6	259	79	344	484
1898.....	3	37	92	132	20	335	112	464	596

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